

BULLETIN OF THE ACADEMY OF SCIENCES OF THE USSR
DIVISION OF CHEMICAL SCIENCES

1953

Index

IN ENGLISH TRANSLATION

CONSULTANTS BUREAU
152 WEST 42ND ST., NEW YORK 18, N.Y.

—An agency for the interpretation of international knowledge—

SECTIONS

	Page
Table of Contents, 1953	1
Author Index, 1953	10
Subject Index, 1953	17
Index and Empirical Formulas of Organic Compounds, 1953	32

Any of the articles listed herein may be purchased separately, exactly as they appear in the published translation, for \$7.50. Individual issues may be purchased for \$20.00 each. The price of the translation of the entire volume is \$80.00.

When ordering articles, please cite the pagination of the English translation. Direct your orders to:

CONSULTANTS BUREAU

152 West 42nd Street

New York 36, N.Y.

BULLETIN OF THE ACADEMY OF SCIENCES OF THE USSR

DIVISION OF CHEMICAL SCIENCES

1953

Index

Publication of the Academy of Sciences of the U.S.S.R.

IN ENGLISH TRANSLATION

Copyright, 1955

CONSULTANTS BUREAU

152 West 42nd Street,

New York 36, N.Y.

Printed in the United States

Annual subscription \$80.00

Index \$ 5.00

THE UNIVERSITY OF CHICAGO

DEPARTMENT OF CHEMISTRY

1955-1956

RESEARCH ASSISTANT

Dr. J. H. Goldstein, Department of Chemistry, University of Chicago

1955-1956

1955

1955-1956

1955-1956

1955-1956

TABLE OF CONTENTS

1953

	Page	Russ. page
January-February		
General and Inorganic Chemistry		
Periodicity in the Structure of the Electron Envelopes and Nuclei of Atoms. Communication I. Periodic System of the Elements and Its Connection with the Theory of Numbers and with Physicochemical Analysis. <u>A. F. Kapustinsky</u>	1	3
Periodicity in the Structure of the Electron Envelopes and Nuclei of Atoms. Communication II. Classification of the Atomic Nuclei of the Elements on the Basis of the Packing Effect and the Layered Structure of the Atomic Nucleus. <u>A. F. Kapustinsky</u>	11	12
Determination of the Structure and Structural Formulas of Organic Compounds from Crystallographic Data. <u>G. B. Boky</u>	19	21
Effect of the Pressure Applied in the Compression of an Alumina-Molybdenum Oxide Catalyst on Its Activity and Structure. <u>O. D. Sterligov, M. G. Gonikberg, A. M. Rubinshtein, and B. A. Kazansky</u>	25	28
Adsorption of Gas Mixtures. Communication 3. Possibility of a Statistical Treatment of the Adsorption Phenomena of Gas Mixtures. <u>B. P. Bering and V. V. Serpinsky</u>	33	37
Elucidation of the Role of Different Adsorption Centers in the Hydrogenation of Acetylene over Nickel. Communication 2. Investigation of the Kinetics of the Hydrogenation and Activated Adsorption of Acetylene at a Nickel Catalyst. <u>N. P. Keier</u>	43	48
Systems Containing Concentrated Hydrogen Peroxide. Communication 3. Solubility Isotherms for the Ternary System $\text{CO}(\text{NH}_2)_2\text{-H}_2\text{O}_2\text{-H}_2\text{O}$. <u>S. Z. Makarov and B. A. Lebedev</u>	51	58
Hydrated Calcium Silicates. <u>N. A. Toropov, A. I. Borisenko, and P. V. Shirokova</u>	57	65
Organic and Biological Chemistry		
Synthesis of 5-Alkyl-1,3,4-oxadiazol-2(3H)-ones and Study of Their Reactions with Ammonia. <u>V. M. Rodionov and V. K. Zvorykina</u>	61	70
Synthesis of Steroid Compounds and Related Substances. Communication XVI. Condensation of 2-Methyl-2-cyclohexen-1-one with 2-Methoxy-1,3-butadiene. Synthesis of 3,4,4a,7,8,8a-hexahydro-4a-methyl-5-vinyl-2(1H)-naphthalenone and 3,4,4a,5,6,8a-hexahydro-8a-methyl-8-vinyl-2(1H)-naphthalenone. <u>I. N. Nazarov, I. V. Torgov, I. I. Zaretskaya, G. P. Verkholetova, S. N. Ananchenko, and V. M. Andreev</u>	69	78
Catalytic Amination of Ketones of Various Structures. <u>M. A. Popov, N. I. Shuikin, and O. L. Baranovskaya</u>	81	91
Hydrogenating and Dehydrogenating Power of Nickel Catalysts on Various Carriers. <u>N. I. Shuikin, Kh. M. Minachev, and L. M. Feofanova</u>	85	96
Reactions of Vinyl Ethers. Communication VIII. Reactions of Acetals Derived from Ethylene Glycol. <u>M. F. Shostakovsky, N. A. Gershtein, and Z. S. Volkova</u>	89	100

	Page	Russ. page
Activation of Vinylcaprolactam in Presence of Hydrogen Peroxide. <u>M. F. Shostakovsky and F. P. Sidelkovskaya</u>	97	108
Depolymerization of Dicyclopentadiene by the Continuous Method. <u>N. F. Kononov, Z. Ya. Lapshina, and S. S. Novikov</u>	101	112
Investigation of the Mechanism of Cyclization with the Aid of Deuterium. Communication I. Cyclization of 2-Methyl-1,5-hexadien-3-one. <u>D. N. Kursanov, Z. N. Parnes, I. I. Zaretskaya, and I. N. Nazarov</u>	103	114
Organophosphorus Compounds: O,O-Dialkyl Hydrogen Phosphorothiolothionates. <u>M. I. Kabachnik and T. A. Mastryukova</u>	109	121
Crystalline Organolithium Compounds. Compounds of the Aromatic Series. <u>T. V. Talalaeva and K. A. Kocheshkov</u>	113	126
Synthesis and Properties of Organosilicon Esters of Mono- and Di-basic Acids. <u>D. N. Andreev and L. L. Shchukovskaya</u>	121	135
Macromolecular Compounds. Communication 51. Investigation of the Polyester Exchange Reaction by the Use of Deuterium. <u>D. N. Kursanov, V. V. Korshak, and S. V. Vinogradova</u>	125	140
Relative Basicities of Nitrogen Atoms in Compounds of the 2-Aminopyridine and 1-Alkyl-2(1H)-pyridonimine Types. <u>Ya. L. Goldfarb, M. A. Pryanishnikova, and K. A. Zhukova</u>	129	145
Relation between the Structures of Certain Organic Bases and Their Ability to Form Addition Compounds with Carbonic Acid. Communication 2. Pyridine Derivatives. <u>Ya. L. Goldfarb and Ya. L. Danyushevsky</u>	137	154
Theory of Tautomeric Equilibrium. Communication 3. The Question of Pseudomerism. Structure and Properties of Dialkyl Thiophosphites. <u>M. I. Kabachnik and T. A. Mastryukova</u>	145	163
Brief Communications		
Raman Spectra of Two Silahydrocarbons. <u>M. V. Volkenshtein and E. I. Pokrovsky</u> ..	159	177
Chronicle		
Scientific and Technical Session on Ion Exchange. Joint Scientific Session of the Division of Chemical Sciences of the U.S.S.R. Academy of Sciences and the Academy of Sciences of the Uzbek S.S.R.	161	178
March-April		
General and Inorganic Chemistry		
Geometric Isomerism and Properties of Complex Compounds. <u>I. I. Chernyaev</u> ...	177	197
Geometric and Enantiomorphic Isomerism of the Triammines. $[EnAmPtClBrNO_2]X$. Communication 1. <u>I. I. Chernyaev and O. N. Adrianova</u>	183	204
Thermochemical Investigation of Isomeric Platinum Compounds. <u>I. I. Chernyaev, V. A. Palkin, and V. A. Sokolov</u>	193	215
Complex Compounds of Platinum with Acetamide. <u>I. I. Chernyaev and L. A. Nazarova</u>	199	220
Reactions in Solutions of Bivalent Platinum Diammines in Presence of Ultraviolet Radiation. <u>A. V. Babaeva and M. A. Mosyagina</u>	205	227
Complex Compounds of Platinum with Diallylamine. <u>A. M. Rubinshtein and G. V. Derbisher</u>	209	232

	Page	Russ. page
Structure of the Complex Ion $[\text{Co}(\text{NO}_2)_4(\text{NH}_3)_2]^-$. <u>G. B. Boky and E. A. Gilinskaya</u>	215	238
Hydration of Ions in Aqueous Solution. <u>O. Ya. Samoilov</u>	219	242
Determination of the Distribution Coefficients of Radium and of Its Isotope ThX between Melt and Crystals of Calcium Nitrate. <u>V. G. Khlopin, V. R. Klokman, and E. G. Pekelnaya</u>	227	250
Organic and Biological Chemistry		
β -Amino Acids. Communication 34. Synthesis and Characterization of β -Aminodecahydro-2-naphthalenepropionic Acid. <u>V. M. Rodionov and L. V. Antik</u>	231	253
Conversion of Pentane into Liquid Hydrocarbons and Gas at 250-360 Atmospheres and 400-500°. <u>A. V. Topchiev, Ya. M. Paushkin, B. A. Krentsel, and I. M. Tolchinsky</u>	237	260
Catalytic Reactions of Five- and Six-Membered Cycloalkanes under a Pressure of Hydrogen at High Temperature. <u>N. I. Shuikin, N. G. Berdnikova, and S. S. Novikov</u>	243	269
Catalytic Isomerization of Ethylcyclopentane in the Vapor Phase. <u>N. I. Shuikin and S. S. Novikov</u>	251	278
Addition Reactions of Fluoroalkenes. Communication 2. Addition of Alcohols and Thiols to Perfluoropropene. <u>I. L. Knunyants, A. I. Shchekotikhin, and A. V. Fokin</u>	255	282
Crystalline Organolithium Compounds. Benzyl lithium. <u>T. V. Talalaeva and K. A. Kocheshkov</u>	263	290
Raman Spectra of Some Sila-Hydrocarbons. <u>V. A. Kolesova, E. V. Kukharskaya, and D. N. Andreev</u>	267	294
Use of the Salt $(\text{C}_6\text{H}_5\text{N}_2\text{Cl})_2 \cdot \text{SbCl}_3$ in the Double-Diazonium-Salt Method. <u>A. N. Nesmeyanov, N. K. Gipp, L. G. Makarova, and K. K. Mozgova</u>	271	298
Acetylene Derivatives. Communication 148. Heterocyclic Compounds. XXV. Synthesis of Secondary and Tertiary 2,5-Dimethyl-1-phenyl-4-piperidinols and Their Esters. <u>I. N. Nazarov, S. G. Matsoyan, and V. A. Rudenko</u>	275	303
Acetylene Derivatives. Communication 149. Synthesis of β -Amino Ketones by the Action of Secondary Amines on β -Methoxy Ketones and α, β -Unsaturated Ketones. <u>I. N. Nazarov and S. A. Vartanyan</u>	287	314
Systematics of Macromolecular Compounds. (Nomenclature and Classification of Macromolecular Compounds). <u>V. V. Korshak</u>	293	321
Macromolecular Compounds. Communication 53. Polycondensation of 1-Bromo-3-chloropropane with Benzene. <u>G. S. Kolesnikov and V. V. Korshak</u>	307	336
Macromolecular Compounds. Communication 56. Effect of Stereochemical Factors on the Polymerizability of Halogen-Substituted Ethylenes. <u>V. V. Korshak and N. G. Matveeva</u>	313	344
Comparative Evaluation of the Action of Metal Chlorides in Polymerization Processes. Communication 1. Catalytic Polymerization of Styrene in Presence of Ferric Chloride and of Stannic Chloride. <u>M. F. Shostakovsky and V. A. Gladyshevskaya</u>	319	351
Synthesis of Sulfur Compounds by the Aid of Vinyl Ethers and Acetylene. Communication 6. Reactions of Thiols with Vinyl Ethers. <u>M. F. Shostakovsky, E. N. Prilezhaeva, and E. S. Shapiro</u>	325	357
Synthesis and Reactions of Vinyl Ethers of Ethanolamines. Communication 3. Nature of the Double Bond of Vinyl Ethers of Ethanolamines. <u>M. F. Shostakovsky and I. A. Cherkulaeva</u>	335	368
Chemical Changes Produced in the Cellulose Macromolecule by Oxidizing Agents. Communication 8. Chemical Changes in Cellulose Produced by Oxidation with Hydrogen Peroxide. <u>V. I. Ivanov, E. D. Kaverzneva, and Z. I. Kuznetsova</u>	341	374
Alkaloid Chemistry - Its Significance, and Its Immediate Problems. <u>V. M. Rodionov</u>	351	385

	Page	Russ. page
Brief Communications		
Crystalline Organolithium Compounds. 9-Fluorenyllithium. Phenylethynyllithium. <u>T. V. Talalaeva and K. A. Kocheshkov</u>	357	392
Obituary		
Academician Vladimir Aleksandrovich Kistjakovsky.	359	394
Chronicle		
Award of D. I. Mendeleev Prizes for 1952.	361	396
May-June		
Theoretical and Experimental Yields of Styrene in the Catalytic Dehydrogenation of Ethyl- benzene. <u>N. I. Shuikin and I. I. Levitsky</u>	365	403
The Effect of Secondary Constituents on the Nature of the Surface Heterogeneity of Solid Bodies as Shown by their Adsorptive Properties. <u>N. M. Manko and V. I. Levin</u>	371	409
A Study of the Conditions for the Separation and Gravimetric Determination of Silicic Acid. Communication I. Methods of Determining Silicic Acid in Silicates by Dehydrating Solutions of the Acid. <u>E. N. Egorova</u>	379	419
A Study of the "Composition-Heat-Strength" Diagram for Alloys of the Quaternary System Iron - Chromium - Nickel - Manganese. <u>I. I. Kornilov and K. A. Osipov</u>	387	429
Thermochemical Studies on Solutions. Communication 5. Vapor Pressure and Composition of The Binary System $\text{CH}_3\text{CHO} + \text{H}_2\text{O}$. <u>A. A. Dobrinskaya, V. G. Markovich, and</u> <u>M. B. Neiman</u>	391	434
Electron Microscope Study of Changes in the Surface of Solid Catalysts During Operation. <u>A. B. Shekhter and I. I. Tretyakov</u>	397	442
Chemical and Technological Problems of Mineral Fertilizers in Central Asia. <u>S. I. Volkovich</u> ..	403	448
Recent Developments in the Physico-Chemical Investigation of Cotton Fiber. <u>K. H. Usmanov</u> ..	411	459
The Autoxidation of Allo-o cimene and the Intermediate Products Formed in the Autoxida- tion Process. <u>G. L. Dranishnikov</u>	421	470
The Synthesis of 2-Alkyl naphtho- and 2-Alkylbenzopyranyl Salts from β -Chlorovinylketones . <u>A. N. Nesmeyanov, N. K. Kochetkov, and M. I. Rybinskaya</u>	429	479
The Action of Phosphorus Trichloride on the Ethyl Esters of Orthopropionic and Orthosilicic Acids. <u>B. A. Arbuzov and N. P. Bogonostseva</u>	433	484
Basic Nomenclature and Classification of Low-Molecular Weight Organo-Silicon Compounds. <u>A. V. Topchiev and K. A. Andrianov</u>	439	490
Acetylene Derivatives. 150. Heterocyclic Compounds. XXVI. The Synthesis of Hetero- cyclic Compounds Containing a Condensed 4-Piperidone Nucleus. I <u>N. Nazarov,</u> <u>L. I. Ukhova, and V. A. Rudenko</u>	447	498
Acetylene Derivatives. 152. Heterocyclic Compounds XXVIII. The Synthesis of Some Deriv- atives of Tetrahydro- γ -thiopyrones. <u>I. N. Nazarov and A. I. Kuznetsova</u>	455	506
New Information on the Hofmann Reaction. Communication 5. Reaction of Amides of N-Acylated β -Piperonyl- β -alanines with Alkaline Hypobromites. <u>V. M. Rodionov and</u> <u>V. V. Kiseleva</u>	461	513
Study of the Reaction Mechanism of Cyclization with the Aid of Deuterium. Communication 2. <u>I. N. Nazarov, I. I. Zaretskaya, Z. N. Parnes, and D. N. Kursanov</u>	467	519

	Page	Russ. page
Progress in Research on the Chemistry of Alkaloids of <i>Anabasis Aphylla</i> . <u>A. S. Sadykov</u>	471	524
The Reactions of Acetylene with Aromatic Compounds. <u>I. P. Tsukervanik</u>	479	533
Macromolecular Compounds, Communication 54. Elementary Reactions of the Polyesterification Process. <u>V. V. Korshak and S. V. Vinogradova</u>	483	537
Macromolecular Compounds, Communication 57. The Relation between the Polymerization Capacity and the Structure of Some Asymmetrical Diarylethylenes. <u>V. V. Korshak and N. G. Matveeva</u>	487	542
Macromolecular Compounds, Communication 58. Steric Hindrance in the Polymerization of Nuclear-Substituted Styrenes. <u>V. V. Korshak and N. G. Matveeva</u>	491	547
The Indirect Vinylation of Monocarboxylic and Hydroxy Acids. <u>M. F. Shostakovsky, B. E. Mikhantsev, and N. N. Ovchinnikova</u>	499	556
The Chlorination of Hydrolysis Lignin. <u>N. N. Shorygina and L. I. Kolotova</u>	505	562
Georgy Vladimirovich Akimov (Obituary)	509	566

Chronicle

General Meeting of the Division of Chemical Sciences, Academy of Sciences USSR; Conference on Chemistry of the Borates	511	570
--	-----	-----

July-August

To the Memory of Academician Ilya Vasilyevich Grevenshchikov	521	581
Application of Lithium Aluminum Hydride in Micro Syntheses with Labeled Carbon. <u>G. I. Feklisov</u>	527	587
Reactions of Vitreous Silicates and Aluminosilicates with Aqueous Solutions, Communication I. Reactions of Vitreous Sodium Silicates with Water and with Hydrochloric Acid Solutions. <u>S. K. Dubrovo and Yu. A. Shmidt</u>	535	597
State of Silicic Acid in Solution, and Methods for its Colorimetric Determination. <u>M. M. Pirutko and Yu. A. Shmidt</u>	545	607
Limiting Currents Associated with the Catalytic Discharge of Hydrogen Ions in Presence of Amines. Communication I. Theory of Limiting Catalytic Currents Associated with the Discharge of Hydrogen Ions. <u>S. G. Mairanovsky</u>	551	615
Conditions for the Ignition of Gas Mixtures, Communication 22. Effect of Additions of Diethyl Peroxide and Acetaldehyde on the Kinetics of Cool-Flame Oxidation of Butane. <u>A. A. Dobrinskaya and M. B. Neiman</u>	559	623
New Apparatus for Measuring Sorption. <u>E. N. Nikitin</u>	565	629
Hydrotechnical Cements in the Central Asian Republics. <u>I. S. Kantsepolsky</u>	571	635
Optically Active Organomercury Compounds, Communication I. Preparation of the Diastereoisomeric (1)-Menthyl Esters of (Bromomercuri)Phenylacetic Acid. <u>A. N. Nesmeyanov, O. A. Reutov, and S. S. Poddubnaya</u>	583	649
Synthesis of Organomercury Compounds by Reaction of Organic Halogen Compounds with Mercury. <u>O. A. Reutov and A. N. Nesmeyanov</u>	589	655
Principles of the Nomenclature and Classification of Macromolecular Organosilicon Compounds. <u>K. A. Andrianov and A. V. Topchiev</u>	597	665
Catalytic Hydrogenation of Doubly Unsaturated Compounds Having a Conjugated System of Double Bonds, Communication 2. Hydrogenation of Isoprene in Presence of Platinum, Palladium, and Nickel. <u>B. A. Kazansky, I. V. Gostunskaya, and A. M. Granat</u>	601	670

Reactions of Individual Hydrocarbons in Contact with Activated Troshkov Clay. Communication I. Reactions of Cyclohexene, 4-Methylcyclohexene, and 1-Octene. <u>N.I.Shulkin and E. A. Timofeeva</u>	607	678
Preparation of 1,2-Dialkylcycloalkanes. Synthesis of the Stereoisomeric 1-Butyl-2-Methylcyclopentanes. <u>A. F. Plate, A. L. Liberman, and N. A. Momma</u>	617	689
Catalytic Oxidation of the Simplest Unsaturated Hydrocarbons with Heavy Oxygen. <u>L. Ya Margolis and E. G. Plyshevskaya</u>	625	697
Catalytic Hydrocondensation of Carbon Monoxide with Olefins. Communication 10. Behavior of Cyclohexene in Hydrocondensation Catalysis. <u>Ya. T. Eidus and N. I. Ershov</u>	631	704
Organomagnesium Synthesis of Dibutyl-1-naphthylphenylsilane, 1-Naphthyltri-p-tolylsilane, Tribenzyl-1-naphthylsilane, and Benzyl-1-naphthylphenyl-p-tolylsilane. <u>V.S.Chugunov and A. D. Petrov</u>	639	713
Reactions of Vinyl Ethers. Chemical Properties of Alkyl 2-Chloroethyl Acetals. <u>M. F. Shostakovsky and N. A. Gershtein</u>	643	716
Ionic Copolymerization of Vinyl Ethers. <u>M. F. Shostakovsky, B. I. Mikhantsev, and N. N. Ovchinnikova</u>	647	721
Nomenclature of Synthetic Steroids and Related Substances. <u>I. N. Nazarov</u>	651	726
Acetylene Derivatives. Communication 151. Heterocyclic Compounds. XXVII. Synthesis of Polycyclic γ -Amino Alcohols and their Esters. <u>I. N. Nazarov, L. I. Ukhova, and V. A. Rudenko</u>	655	730
Macromolecular Compounds. Communication 55. Application of Interchain Exchange Reactions in Linear Polycondensation Processes. <u>S. R. Rafikov, V. V. Korshak, and G.N.Chelnokova</u> ..	669	743
Macromolecular Compounds. Communication 59. Stereochemistry of α -Methylstyrenes in its Relation to their Tendency to Undergo Polymerization. <u>V. V. Korshak and N.G.Matveeva</u> ..	675	751

Chronicle

At the Committee for the Investigation of the Scientific Heritage of D. I. Mendeleev and the Publishing of his Works	679	757
--	-----	-----

September-October

To the Memory of Academician Nikolai Dimitrievich Zelinsky	683	765
A. M. Butlerov (in celebration of the 125th anniversary of his birth)	691	775

General and Inorganic Chemistry

Thermodynamic Stability of Various Structures in Binary Inorganic Crystals. <u>Yu. M. Golutvin</u> ..	695	781
Electronic Processes in Chemisorption. Communication 1. <u>F. F. Volkenshtein</u>	701	788
Metallic Compounds. <u>I. I. Kornilov</u>	707	795
Limiting Currents Associated with the Catalytic Discharge of Hydrogen Ions in Presence of Amines. Communication 2. Catalytic Effect of Quinine. <u>S. G. Mairanovsky</u>	715	805
Heterogeneous Equilibria in the Systems $\text{LiCl}-\text{RbCl}-\text{H}_2\text{O}$ and $\text{LiCl}-\text{CsCl}-\text{H}_2\text{O}$. <u>V.P.Blidin</u> ..	723	814

Organic and Biological Chemistry

Condensation Reactions of 3-Camphenilancarboxaldehyde with Ketones and Esters. <u>B. A. Arbuzov and L. A. Mukhamedova</u>	727	820
---	-----	-----

	Page	Russ. page
Reactions of Bis(chloromethyl) Esters of Glycols with Sodium Alkoxides. <u>B. A. Arbuzov and G. M. Vinokurova</u>	735	829
Isomerization of Terpene Hydrocarbons by the Action of Silica Gel under the Conditions of Adsorptional Analysis. <u>B. A. Arbuzov and Z. G. Isaeva</u>	747	843
Optically Active Organomercury Compounds. Communication 2. Mechanism of Electrophilic Substitution at a Saturated Carbon Atom. <u>A. N. Nesmeyanov, O. A. Reutov and S.S.Poddubnaya</u>	753	850
Grignard Synthesis of Tetraphenylsilane, Tetra-p-tolylsilane, and Fluorotri-p-tolylsilane. <u>V. S. Chugunov</u>	761	860
Reactions of Aldehydes with Phosphonous and Phosphinous Chlorides. <u>M. I. Kabachnik and E. S. Shepeleva</u>	763	862
New Method for the Synthesis of 1-Aminoalkylphosphonic Acids. Communication 1. <u>M. I. Kabachnik and T. Ya. Medved</u>	769	868
High-Temperature Contact-Catalysis Reactions of Normal Alkanes in Presence of Hydrogen at High Pressure. <u>N. I. Shulkin, N. G. Berdnikova, and S. S. Novikov</u>	779	879
Synthesis of Steroid Compounds and Related Substances. Communication XVII. Preparation of α, β -Unsaturated Cyclic Ketones (2-Cycloalken-1-ones). <u>I. N. Nazarov, L. D. Bergelson, I. V. Torgov, and S. N. Ananchenko</u>	787	889
Synthesis of Steroid Compounds and Related Substances. Communication XVIII. Condensation of 3,4,4a,7,8,8a-Hexahydro-4a-methyl-5-vinyl-2(1H)-naphthalenone and 3,4,4a,5,6,8a-Hexahydro-8a-methyl-8-vinyl-2(1H)-naphthalenone with 2,4-Dimethyl-2-cyclopenten-1-one. <u>I. N. Nazarov and I. V. Torgov</u>	799	901
Synthesis of Steroid Compounds and Related Substances. Communication XIX. Condensation of 3,4,4a,7,8,8a-Hexahydro-4a-methyl-5-vinyl-2(1H)-naphthalenone and 3,4,4a,5,6,8a-Hexahydro-8a-methyl-8-vinyl-2(1H)-naphthalenone with 2-Cyclohexen-1-ones and with Citraconic Anhydride. <u>I. N. Nazarov, I. I. Zaretskaya, G. P. Verkholetova, and I. V. Torgov</u>	817	920
Synthesis of Steroid Compounds and Related Substances. Communication XX. Condensation of 3,4,4a,7,8,8a-Hexahydro-4a-methyl-5-vinyl-2(1H)-naphthalenone and 3,4,4a,5,6,8a-Hexahydro-8a-methyl-8-vinyl-2(1H)-naphthalenone with 2-Cyclopenten-1-one, 2-Methyl-2-cyclopenten-1-one, and 3,5-Dimethyl-3-cyclopentene-1,2-dione. <u>I. N. Nazarov, G. P. Verkholetova, I. V. Torgov, I. I. Zaretskaya, and S. N. Ananchenko</u>	827	929
Synthesis and Reactions of Oxygen-containing Organosilicon Compounds. Communication 1. Synthesis of Organosilicon Acetals. <u>M. F. Shostakovsky, I. A. Shikhiev, and D.A.Kochkin</u>	837	941
Effect of Compression on the Porosity, Catalytic Properties, and Chromatographic Activity of Silica Gel. <u>L. Kh. Freidlin, L. F. Vereshchagin, I. E. Nelmark, I. U. Numanov, and R. Yu. Sheinfain</u>	841	945
Macromolecular Compounds. Communication 62. Polycondensation of Acid Esters of Adipic Acid with Various Glycols. <u>V. V. Korshak and S. V. Vinogradova</u>	847	951

November-December

General and Inorganic Chemistry

Adsorption of Gas Mixtures. Communication 4. Adsorption of Water and Ethyl Chloride Vapors on Active Charcoal. <u>B. P. Bering and V. V. Serpinsky</u>	851	957
Isomerism of the Dibromodinitroplatinate(II) Ion. <u>A. A. Grinberg, A. I. Dobroborskaya, and G. A. Shagisultanova</u>	861	968
Electronic Processes in Chemisorption. Communication 2. <u>F. F. Volkenshtein</u>	865	972

	Page	Russ. page
Solubility of the Elements in Chromium. <u>I. I. Kornilov</u>	871	980
Organic and Biological Chemistry		
Splitting of Hydrogen Chloride from $\alpha, \alpha, \alpha, \omega$ -Tetrachloroalkanes and α, α, α -Trichloroalkanes. <u>A. N. Nesmeyanov and L. I. Zakharkin</u>	879	988
2-Aminovinyl Ketones. Communication 1. Synthesis of Alkyl 2-Dialkylaminovinyl Ketones. <u>N. K. Kochetkov</u>	883	991
Condensation of Meso-halo Derivatives of 1,3-Dioxo Compounds with Urea. <u>L. Sekeres and G. Fodor</u>	887	996
High-temperature Catalytic Dehydrogenation of Ethylcyclohexane. Communication 1. Main Direction of the Reaction. <u>N. I. Shuikin and I. I. Levitsky</u>	895	1003
High-temperature Catalytic Dehydrogenation of Ethylcyclohexane. Communication 2. Thermodynamic Equilibrium in the Dehydrogenation of Ethylbenzene under the Conditions of its Formation from Ethylcyclohexane. <u>I. I. Levitsky and N. I. Shuikin</u> ;	903	1012
Reaction of the Grignard Reagent from 3-Chloro-2,4-dimethyl-1-pentene with 2,4-Dimethyl-3-pentanone, Ethyl Formate, and Amyl Butyrate. <u>V. A. Ponomarenko and T. Ya. Tolkacheva</u>	907	1017
Semicatalytic Hydrogenation and Dehydrational Condensation in the Mechanism of the Iso Synthesis. <u>Ya. T. Eidus</u>	913	1024
Hydrogen Exchange Between Saturated Hydrocarbons and Sulfuric Acid. <u>D. N. Kursanov, V. N. Setkina, and O. D. Sterligov</u>	921	1035
Transformations of Vinyl Ethers. Synthesis of Halo Acetals from Vinyl Ethers. <u>M. F. Shostakovsky and N. A. Gershtein</u>	927	1043
Chemical Reactions of Unsaturated and Macromolecular Compounds. Communication 1. Copolymerization of Methacrylic Acid and Alkyl Vinyl Ethers. <u>M. F. Shostakovsky and A. M. Khomutov</u>	931	1048
Ionic Polymerization of Vinyl Ethers. <u>M. F. Shostakovsky, B. I. Mikhantsev, and N. N. Ovchinnikova</u>	939	1056
Derivatives of Tertiary Unsaturated Alcohols. Communication 1. Synthesis of Acetylenic Acetals from Vinyl Ethers and Acetylenic Alcohols. <u>M. F. Shostakovsky and I. A. Shikhiev</u> ..	943	1061
Cyanine Dyes. Communication 4. Synthesis of 3-Methyl-4-p-tolylbenzo[f]quinolinium Iodide, and Some of Its Reactions. <u>G. T. Pilyugin</u>	949	1068
Synthesis of Steroid Compounds and Related Substances. Communication XXI. Condensation of 3,4,4a,5,8,8a-Hexahydro-8a-methyl-1-vinylnaphthalene with α, β -Unsaturated Cyclic Ketones. Synthesis of Steroid Ketones Derived from Hydrogenated Cyclopenta[a]phenanthrene and Chrysene. <u>I. N. Nazarov, L. I. Shmonina, and I. V. Torgov</u>	955	1074
Synthesis of Steroid Compounds and Related Substances. Communication XXIII. Synthesis of Sulfur Analogs of Steroids by Diene Condensation of Cyclic γ -Keto Sulfones with Bicyclic Dienes. <u>I. N. Nazarov, I. A. Gurvich, and A. I. Kuznetsova</u>	969	1091
Synthesis of Polycyclic Compounds Related to Steroids. Communication XXV. Synthesis of Compounds Related to Estrone by the Diene-condensation Method. <u>I. N. Nazarov and I. L. Kotlyarevsky</u>	977	1100
Stability of Skeletal Nickel Catalyst at Elevated Temperature. <u>L. Kh. Freidlin and K. G. Rudneva</u>	987	1111
Macromolecular Compounds. Communication 60. Role of Stereochemical Factors in the Polymerization Process. <u>V. V. Korshak and N. G. Matveeva</u>	991	1116

	Page	Russ. page
Macromolecular Compounds. Communication 63. Polyesters of 1,20-Eicosanediol. <u>V. V. Korshak and S. V. Vinogradova</u>	995	1121

Brief Communications

Certain Derivatives of Aminomethylphosphonic Acid. <u>M. I. Kabachnik and T. Ya. Medved</u>	999	1126
Synthesis of 1-Butene-4-C ¹⁴ and Butane-1-C ¹⁴ . <u>M. B. Neiman and G. I. Feklisov</u>	1003	1129

AUTHOR INDEX

1953

- Adrianova, O.N., see Chernyaev, I.I.
Ananchenko, S.N., see Nazarov, I.N.
Andreev, D.N., see Kolesova, V.A.
Andreev, V.M., see Nazarov, I.N.
Andreev, D.N., and L.L. Shchukovskaya. Synthesis and properties of organosilicon esters of mono- and di-basic acids, 121.
Andrianov, K.A., and A.V. Topchiev. Principles of the nomenclature and classification of macromolecular organosilicon compounds, 597.
Andrianov, K.A., see Topchiev, A.V.

Antik, L.V., see Rodionov, V.M.
Arbuzov, B.A., and N.P. Bogonostseva. The action of phosphorous trichloride on the ethyl esters of orthopropionic and orthosilicic acids, 433.
Arbuzov, B.A., and Z. G. Isaeva. Isomerization of terpene hydrocarbons by the action of silica gel under the conditions of adsorptional analysis, 747.
Arbuzov, B.A., and L.A. Mukhamedova. Condensation reactions of 3-camphenilane-carboxaldehyde with ketones and esters, 727.
Arbuzov, B.A., and G.M. Vinokurova. Reactions of bis(chloromethyl)ethers of glycols with sodium alkoxides, 735.

Babaeva, A.V., and M.A. Mosyagina. Reactions in solutions of bivalent platinum diammines in presence of ultraviolet radiation, 205.
Baranovskaya, O.L., see Popov, M.A.
Berdnikova, N.G., see Shukin, N.I.
Bergelson, L.D., see Nazarov, I.N.
Bering, B.P., and V.V. Serpinsky. Adsorption of gas mixtures. Communication 3. Possibility of a statistical treatment of the adsorption phenomena of gas mixtures, 33.
Bering, B.P., and V.V. Serpinsky. Adsorption of gas mixtures. Communication 4. Adsorption of water and ethyl chloride vapors on active charcoal, 851.
Blidin, V.P. Heterogeneous equilibria in the systems $\text{LiCl}-\text{RbCl}-\text{H}_2\text{O}$ and $\text{LiCl}-\text{CsCl}-\text{H}_2\text{O}$, 723.
Bogonostseva, N.P., see Arbuzov, B.A.
Boky, G.B. Determination of the structure and structural formulas of organic compounds from crystallographic data, 19.
Boky, G.B., and E.A. Gilinskaya. Structure of the complex ion $[\text{Co}(\text{NO}_2)_4(\text{NH}_3)_2]^-$, 215.
Borisenko, A.I., see Toropov, N.A.

Cherkulaeva, I.A., see Shostakovsky, M.F.
Chelnokova, G.N., see Rafikov, S.R.
Chernyaev, I.I. Geometric isomerism and properties of complex compounds, 177.
Chernyaev, I.I., and O.N. Adrianova. Geometric and enantiomorphic isomerism of the triammines $[\text{EnAmPtClBrNO}_2]\text{X}$, 183.
Chernyaev, I.I., and L.A. Nazarova. Complex compounds of platinum with acetamide, 199.
Chernyaev, I.I., V.A. Palkin, and V.A. Sokolov. Thermochemical investigation of isomeric platinum compounds, 193.
Chugunov, V.S. Grignard synthesis of tetraphenylsilane, tetra-*p*-tolylsilane, and fluorotri-*p*-tolylsilane, 761.
Chugunov, V.S., and A.D. Petrov. Organomagnesium synthesis of dibutyl-1-naphthylphenylsilane, 1-naphthyltri-*p*-tolylsilane, tribenzyl-1-naphthylsilane, 639.

Danyushevsky, Ya. L., see Goldfarb, Ya. L.
Derbisher, G. V., see Rubinshtein, A.M.
Dobrinskaya, A.A., V.G. Markovich, and M.B. Neiman. Thermochemical investigations of solutions. Communication 5. Vapor pressure and composition of the binary system $\text{CH}_3\text{CHO} + \text{H}_2\text{O}$, 391.
Dobrinskaya, A.A., and M.B. Neiman. Conditions for the ignition of gas mixtures. Communication 22. Effect of additions of diethyl peroxide and acetaldehyde on the kinetics of cool-flame oxidation of butane, 559.
Dobroborskaya, A.I., see Grinberg, A.A.
Dranishnikov, G.L. The autoxidation of allo-ocimene and the intermediate products formed in the autoxidation process, 421.
Dubrovo, S.K. To the memory of Academician Ilya Vasilyevich Grebenshchikov, 521.
Dubrovo, S.K., and Yu. A. Schmidt. Reactions of vitreous silicates and aluminosilicates with aqueous solutions. Communication 1. Reactions of vitreous sodium silicates with water and with hydrochloric acid solutions, 535.

Egorova, E.N. A study of the conditions for the separation and gravimetric determination of silicic acid. Communication 1. Methods of determining silicic acid in silicates by dehydrating solutions of the acid, 379.
Eidus, Ya. T. Semicatalytic hydrogenation and dehydrational condensation in the mechanism of the isosynthesis, 913.
Eidus, Ya. T., and N. I. Ershov. Catalytic

- hydrocondensation of carbon monoxide with olefins. Communication 10. Behavior of cyclohexane in hydrocondensation catalysis, 631.
- Ershov, N.I., see Eidus, Ya. T.
- Feklisov, G.I. Application of lithium aluminum hydride in micro syntheses with labeled carbon, 527.
- Feklisov, G.I., see Neiman, M.B.
- Feofanova, L.M., see Shuikin, N.I.
- Fodor, G., see Sekeresh, L.
- Fokin, A.V., see Knunyants, I.L.
- Freidlin, L. Kh., and K.G. Rudneva. Stability of skeletal nickel catalyst at elevated temperature, 987.
- Freidlin, L. Kh., L.F. Vereshchagin, I.E. Neimark, I.U. Numanov, and R. Yu. Sheinfain. Effect of compression on the porosity, catalytic properties, and chromatographic activity of silica gel, 841.
- Gershtein, N.A., see Shostakovskiy, M.F.
- Gilinskaya, E.A., see Boky, G.B.
- Gipp, N.K., see Nesmeyanov, A. N.
- Gladyshevskaya, V.A., see Shostakovskiy, M.F.
- Goldfarb, Ya. L., and Ya. L. Danyushevskiy. Relation between the structures of certain organic bases and their ability to form addition compounds with carbonic acid. Communication 2. Pyridine derivatives, 137.
- Goldfarb, Ya. L., M.A. Pryanishnikova, and K.A. Zhukova. Relative basicities of nitrogen atoms in compounds of the 2-aminopyridine and 1-alkyl-2(1H)-pyridonimine types, 129.
- Golutvin, Yu. M. Thermodynamic stability of various structures in binary inorganic crystals, 695.
- Gonikberg, M.G., see Sterligov, O.D.
- Gostunskaya, I.V., see Kazansky, B.A.
- Granat, A.M., see Kazansky, B.A.
- Grinberg, A.A., A.I. Dobroborskaya, and G.A. Shagisultanova. Isomerism of the dibromodinitroplatinate (II) ion, 861.
- Gurvich, I. A., see Nazarov, I.N.
- Isaeva, Z.G., see Arbuzov, B.A.
- Ivanov, V.I., E.D. Kaverzneva, and Z.I. Kuznetsova. Chemical changes produced in the cellulose macromolecule by oxidizing agents. Communication 8. Chemical changes in cellulose produced by oxidation with hydrogen peroxide, 341.
- Kabachnik, M.I., and T.A. Mastryukova. Organophosphorous compounds: O,O-Dialkyl hydrogen phosphorothiolonates, 109.
- Kabachnik, M.I., and T.A. Mastryukova. Theory of tautomeric equilibrium. Communication 3. The question of pseudomerism. Structure and properties of dialkyl thiophosphites, 145.
- Kabachnik, M.I., and T. Ya. Medved. Certain derivatives of aminomethylphosphonic acid, 999.
- Kabachnik, M.I., and T. Ya. Medved. New method for the synthesis of 1-aminoalkyl-phosphinic acids. Communication 1, 769.
- Kabachnik, M.I., and E.S. Shepeleva. Reactions of aldehydes with phosphonous and phosphinous chlorides, 763.
- Kantsepolsky, I.S. Hydrotechnical cements in the Central Asian Republics, 571.
- Kapustinsky, A.F. Periodicity in the structure of the electron envelopes and nuclei of atoms. Communication 1. Periodic system of the elements and its connection with the theory of numbers and with physico-chemical analysis. 1.
- Kapustinsky, A.F. Periodicity in structure of electron envelopes and nuclei of atoms. Communication 2. Classification of the atomic nuclei of the elements on the basis of the packing effect and the layered structure of the atomic nucleus, 11.
- Kaverzneva, E.D., see Ivanov, V.I.
- Kazansky, B.A., I.V. Gostunskaya, and A.M. Granat. Catalytic hydrogenation of doubly unsaturated compounds having a conjugated system of double bonds. Communication 2. Hydrogenation of isoprene in presence of platinum, palladium, and nickel, 601.
- Kazansky, B.A., see Nesmeyanov, A.N.
- Kazansky, B.A., see Sterligov, O.D.
- Keier, N.P. Elucidation of the role of different adsorption centers in the hydrogenation of acetylene over nickel. Communication 2. Investigation of the kinetics of the hydrogenation and activated adsorption of acetylene at a nickel catalyst, 43.
- Khlopin, V.G., V.R. Klokman, and E.G. Pekejnaya. Determination of the distribution coefficients of radium and of its isotope ThX between melt and crystals of calcium nitrate, 227.
- Khomutov, A.M., see Shostakovskiy, M.F.
- Kiseleva, V.V., see Rodionov, V.M.
- Klokman, V.R., see Khlopin, V.G.
- Knunyants, I.L., A.I. Shchekotikhin, and A.V. Fokin. Addition reactions of fluoroalkenes. Communication 2. Addition of alcohols and thiols to perfluoropropene, 255.
- Kocheshkov, K. A., see Talalaeva, T.V.
- Kochetkov, N.K. 2-Aminovinyl ketones. Communication 1. Synthesis of alkyl 2-dialkylaminovinyl ketones, 883.
- Kochetkov, N.K., see Nesmeyanov, A.N.
- Kochkin, D.A., see Shostakovskiy, M.F.,

- Kolesnikov, G.S., and V.V. Korshak. Macromolecular compounds. Communication 53. Polycondensation of 1-bromo-3-chloropropane with benzene, 307.
- Kolesova, V.A., E.V. Kukharskaya, and D.N. Andreev. Raman spectra of some silahydrocarbons, 267.
- Kolotova, L.I., see Shorygina, N. N.
- Kononov, N.F., Z. Ya. Lapshina, and S.S. Novikov. Depolymerization of dicyclopentadiene by the continuous method, 101.
- Kornilov, I.I. Metallic compounds, 707.
- Kornilov, I.I. Solubility of the elements in chromium, 871.
- Kornilov, I.I., and K.A. Osipov. Study of the "Composition-heat strength" diagram for alloys of the quaternary system iron-chromium-nickel-manganese, 387.
- Korshak, V.V. Systematics of macromolecular compounds. (Nomenclature and classification of macromolecular compounds), 293.
- Korshak, V.V., see Kolesnikov, G.S.
- Korshak, V.V., see Kursanov, D.N.
- Korshak, V.V., and N.G. Matveeva. Macromolecular compounds. Communication 56. Effect of stereochemical factors on the polymerizability of halogen-substituted ethylenes, 313.
- Korshak, V.V., and N.G. Matveeva. Macromolecular compounds. Communication 57. The relation between the polymerization capacity and the structure of some unsymmetrical diarylethylenes, 487.
- Korshak, V.V., and N.G. Matveeva. Macromolecular compounds. Communication 58. Steric hindrance in the polymerization of nuclear-substituted styrenes, 491.
- Korshak, V.V., and N.G. Matveeva. Macromolecular compounds. Communication 59. Stereochemistry of α -methylstyrenes in its relation to their tendency to undergo polymerization, 675.
- Korshak, V.V., and N.G. Matveeva. Macromolecular compounds. Communication 60. Role of stereochemical factors in the polymerization process, 991.
- Korshak, V.V., see Rafikov, S.R.
- Korshak, V.V., and S.V. Vinogradova. Macromolecular compounds. Communication 54. Elementary reactions of the polyesterification process, 483.
- Korshak, V.V., and S.V. Vinogradova. Macromolecular compounds. Communication 62. Polycondensation of acid esters of adipic acid with various glycols, 847.
- Korshak, V.V., and S.V. Vinogradova. Macromolecular compounds. Communication 63. Polyesters of 1,20-elcosanediol, 995.
- Kotlyarevsky, I.L., see Nazarov, I.N.
- Krentsel, B.A., see Topchiev, A.V.
- Kukharskaya, E.V., see Kolesova, V.A.
- Kursanov, D.N., V.V. Korshak, and S.V. Vinogradova. Macromolecular compounds. Communication 51. Investigation of the polyester exchange reaction by the use of deuterium, 125.
- Kursanov, D.N., see Nazarov, I.N.
- Kursanov, D.N., Z.N. Parnes, I.I. Zaretskaya, and I.N. Nazarov. Investigation of the mechanism of cyclization with the aid of deuterium. Communication 1. Cyclization of 2-methyl-1,5-hexadien-3-one, 103.
- Kursanov, D.N., V.N. Setkina, and O.D. Sterligov. Hydrogen exchange between saturated hydrocarbons and sulfuric acid, 921.
- Kuznetsova, Z. I., see Ivanov, V. I.
- Kuznetsova, A.I., see Nazarov, I.N.
- Lapshina, Z. Ya., see Kononov, N.F.
- Lebedev, B.A., see Makarov, S.Z.
- Levin, V.I., see Manko, N. M.
- Levitsky, I.I., and N. I. Shuikin. High temperature catalytic dehydrogenation of ethylcyclohexane. Communication 2. Thermodynamic equilibrium in the dehydrogenation of ethylbenzene under the conditions of its formation from ethyl cyclohexane, 903.
- Levitsky, I. I., see Shuikin, N.I.
- Lieberman, A.L., see Plate, A.F.
- Mairanovsky, S.G. Limiting currents associated with the catalytic discharge of hydrogen ions in presence of amines. Communication 1. Theory of limiting catalytic currents associated with the discharge of hydrogen ions, 551.
- Mairanovsky, S.G. Limiting currents associated with the catalytic discharge of hydrogen ions in presence of amines. Communication 2. Catalytic effect of quinine, 715.
- Makarov, S.Z., and B.A. Lebedev. Systems containing concentrated hydrogen peroxide. Communication 3. Solubility isotherms for the ternary system: $\text{CO}(\text{NH}_2)_2\text{-H}_2\text{O}_2\text{-H}_2\text{O}$, 51.
- Makarova, L. G., see Nesmeyanov, A.N.
- Manko, N. M., and V. I. Levin. The effect of secondary constituents on the nature of the surface heterogeneity of solid bodies as shown by their adsorptive properties, 371.
- Margolis, L.Ya., and E. G. Plyshevskaya. Catalytic oxidation of the simplest unsaturated hydrocarbons with heavy oxygen, 625.
- Markovich, V. G., see Dobrinskaya, A.A.
- Masryukova, T. A., see Kabachnik, M. I.
- Matsoyan, S.G., see Nazarov, I.N.
- Matveeva, N.G. see Korshak, V.V.

- Medved, T. Ya., see Kabachnik, M. I.
- Mendeleev, D. I., Committee for the investigation of the scientific heritage of, and the publishing of his works, 679.
- Mikhant'ev, B. E., see Shostakovskiy, M. F.
- Mikhant'ev, B. I., see Shostakovskiy, M. F.
- Minachev, Kh. M., see Shuikin, N. I.
- Momma, N. A., see Plate, A. F.
- Mosyagina, M. A., see Babaeva, A. V.
- Mozgova, K. K., see Nesmeyanov, A. N.
- Mukhamedova, L. A., see Arbuzov, B. A.
- Nazarov, I. N., Nomenclature of synthetic steroids and related substances, 651.
- Nazarov, I. N., L. D. Bergelson, I. V. Torgov and S. N. Ananchenko. Synthesis of steroid compounds and related substances. Communication XVII. Preparation of α, β -unsaturated cyclic ketones (2-cycloalken-1-ones), 787.
- Nazarov, I. N., I. A. Gurvich, and A. I. Kuznetsova. Synthesis of steroid compounds and related substances. Communication XXIII. Synthesis of sulfur analogs of steroids by diene condensation of cyclic γ -keto sulfones with bicyclic dienes, 969.
- Nazarov, I. N., and I. L. Kotlyarevsky. Synthesis of polycyclic compounds related to steroids. Communication XXV. Synthesis of compounds related to estrone by the diene-condensation method, 977.
- Nazarov, I. N., see Kursanov, D. N.
- Nazarov, I. N., and A. I. Kuznetsova. Acetylene derivatives. Communication 152. Heterocyclic compounds. XXVIII. The synthesis of some derivatives of tetrahydro- γ -thiopyrones, 455.
- Nazarov, I. N., S. G. Matsoyan, and V. A. Rudenko. Acetylene derivatives. Communication 148. Heterocyclic compounds. XXV. Synthesis of secondary and tertiary 2,5-dimethyl-1-phenyl-4-piperidone and their esters, 275.
- Nazarov, I. N., L. I. Shmonina, and I. V. Torgov. Synthesis of steroid compounds and related substances. Communication XXI. Condensation of 3,4,4a,5,8,8a-hexahydro-8a-methyl-1-vinylnaphthalene with α, β -unsaturated cyclic ketones. Synthesis of steroid ketones derived from hydrogenated cyclopenta [a]-phenanthrene and chrysene, 955.
- Nazarov, I. N., and I. V. Torgov. Synthesis of steroid compounds and related substances. Communication XVII. Condensation of 3,4,4a,7,8,8a-hexahydro-4a-methyl-5-vinyl-2(1H)-naphthalenone and 3,4,4a,5,6,8a-methyl-8-vinyl-2(1H)-naphthalenone with 2,4-dimethyl-2-cyclopenten-1-one, 799.
- Nazarov, I. N., I. V. Torgov, I. I. Zaretskaya, G. P. Verkholetova, S. N. Ananchenko, and V. M. Andreev. Synthesis of steroid compounds and related substances. Communication XVI. Condensation of 2-methyl-2-cyclohexen-1-one with 2-methoxy-1,3-butadiene. Synthesis of 3,4,4a,7,8,8a-hexahydro-4a-methyl-5-vinyl-2(1H)-naphthalenone, and 3,4,4a,5,6,8a-hexahydro-8a-methyl-8-vinyl-2(1H)-naphthalenone, 69.
- Nazarov, I. N., L. I. Ukhova, and V. A. Rudenko. Acetylene derivatives. Communication 150. Heterocyclic compounds. XXVI. The synthesis of heterocyclic compounds containing a condensed 4-piperidone nucleus, 447.
- Nazarov, I. N., L. I. Ukhova, and V. A. Rudenko. Acetylene derivatives. Communication 151. Heterocyclic compounds. XXVII. Synthesis of polycyclic γ -amino alcohols and their ester, 655.
- Nazarov, I. N., and S. A. Vartanyan. Acetylene derivatives. Communication 149. Synthesis of β -amino ketones by the action of secondary amines on β -methoxy ketones and α, β -unsaturated ketones, 287.
- Nazarov, I. N., G. P. Verkholetova, I. V. Torgov, I. I. Zaretskaya, and S. N. Ananchenko. Synthesis of steroid compounds and related substances. Communication XX. Condensation of 3,4,4a,7,8,8a-hexahydro-4a-methyl-5-vinyl-2(1H)-naphthalenone, and 3,4,4a,5,6,8a-hexahydro-8a-methyl-8-vinyl-2(1H)-naphthalenone, with 2-cyclopenten-1-one, 2-methyl-2-cyclopenten-1-one and 3,5-dimethyl-3-cyclopenten-1,2-dione, 827.
- Nazarov, I. N., I. I. Zaretskaya, Z. N. Parnes and D. N. Kursanov. Study of the reaction mechanism of cyclization with the aid of deuterium. Communication 2, 467.
- Nazarov, I. N., I. I. Zaretskaya, G. P. Verkholetova, and I. V. Torgov. Synthesis of steroid compounds and related substances. Communication XIX. Condensation of 3,4,4a,7,8,8a-hexahydro-4a-methyl-5-vinyl-2(1H)-naphthalenone and 3,4,4a,5,6,8a-hexahydro-8a-methyl-8-vinyl-2(1H)-naphthalenone with 2-cyclohexen-1-one and with citraconic anhydride, 817.
- Nazarova, L. A., see Chernyaev, I. I.
- Neiman, M. B., and G. I. Feklisov. Synthesis of 1-butene-4- C^{14} and butane-1- C^{14} , 1003.
- Neiman, M. B., see Dobrinskaya, A. A.
- Neimark, I. E., see Freidlin, L. Kh.
- Nesmeyanov, A. N., N. K. Gipp, L. G. Makarova, and K. K. Mozgova. Use of the salt $(C_6H_5N_2Cl)_2 \cdot SbCl_3$ in the double-diazonium salt method, 271.
- Nesmeyanov, A. N., N. K. Kochetkov, and M. I. Rybinskaya. The synthesis of 2-alkylnaphtho and 2-alkylbenzopyranyl salts from β -chlorovinyl ketones, 429.
- Nesmeyanov, A. N., see Reutov, O. A.
- Nesmeyanov, A. N., O. A. Reutov, and S. S. Poddubnaya. Optically active organomercury compounds. Communication 1. Preparation of the diastereoisomeric (1)-menthyl esters of (bromomercuri) phenylacetic acid, 583.
- Nesmeyanov, A. N., O. A. Reutov, and S. S. Poddubnaya.

- Optically active organomercury compounds. Communication 2. Mechanism of electrophilic substitution at a saturated carbon atom, 753.
- Nesmeyanov, A.N., A.V. Topchiev, B.A. Kazansky, and N. I. Shuikin. To the memory of Academician Nikolai Dmitrievich Zelinsky, 683.
- Nesmeyanov, A.N., and L.I. Zakharkin. Splitting of hydrogen chloride from, $\alpha, \alpha, \alpha, \omega$ -tetrachloroalkanes and α, α, α -trichloroalkanes, 879.
- Nikitin, E.N. New apparatus for measuring sorption, 565.
- Novikov, S.S., see Kononov, N.F.
- Novikov, S.S., see Shuikin, N.I.
- Numanov, I.U., see Freidlin, L. Kh.
- Osipov, K.A., see Kornikov, I.I.
- Ovchinnikova, N.N., see Shostakovsky, M.F.
- Palkin, V.A., see Chernyaev, I.I.
- Parnes, Z.N., see Kursanov, D.N.
- Parnes, Z.N., see Nazarov, I.N.
- Paushkin, Ya. M., see Topchiev, A.V.
- Pekelnaya, E.G., see Khlopin, V.G.
- Petrov, A.D., see Chugunov, V.S.
- Pilyugin, G.T. Cyanine dyes. Communication 4. Synthesis of 3-methyl-4-p-tolylbenzo [f]-quinolinium iodide and some of its reactions, 949.
- Piryutko, M.M., and Yu. A. Schmidt. State of silicic acid in solution, and methods for its colorimetric determination, 545.
- Plate, A.F., A.L. Liberman, and N.A. Momma. Preparation of 1,2-dialkylcycloalkanes. Synthesis of the stereoisomeric 1-butyl-2-methylcyclopentanes, 617.
- Poddubnaya, S.S., see Nesmeyanov, A.N.
- Pokrovsky, E.I., see Volkenshtein, M.V.
- Ponomarenko, V.A., and T. Ya. Tolkacheva. Reaction of the Grignard reagent from 3-chloro-2,4-dimethyl-1-pentene with 2,4-dimethyl-3-pentanone, ethyl formate and amyl butyrate, 907.
- Popov, M.A., N.I. Shuikin, and O.L. Baranovskaya. Catalytic amination of ketones of various structures, 81.
- Prilezhaeva, E.N., see Shostakovsky, M.F.
- Pryanishnikova, M.A., see Goldfarb, Ya. L.
- Rafikov, S.R., V.V. Korshak, and G.N. Chelnokova. Macromolecular compounds. Communication 55. Application of interchain exchange reactions in linear polycondensation processes, 669.
- Reutov, O.A., see Nesmeyanov, A.N.
- Reutov, O.A., and A.N. Nesmeyanov. Synthesis of organomercury compounds by reaction of organic halogen compounds with mercury, 589.
- Rodionov, V.M. Alkaloid chemistry — its significance and its immediate problems, 351.
- Rodionov, V.M., and L.V. Antik. β -Amino acids. Communication 34. Synthesis and characterization of β -aminodecahydro-2-naphthalenepropionic acid, 231.
- Rodionov, V.M., and V.V. Kiseleva. New information on the Hofmann reaction. Communication 5. Reaction of amides of N-acylated β -piperonyl- β -alanines with alkaline hypobromites, 461.
- Rodionov, V.M., and V.K. Zvorykina. Synthesis of 5-alkyl-1,3,4-oxadiazol-2(3 H)-ones and study of their reactions with ammonia, 61.
- Rubinshtein, A.M., and G.V. Derbisher. Complex compounds of platinum with diallylamine, 209.
- Rubinshtein, A.M., see Sterligov, O.D.
- Rudenko, V.A., see Nazarov, I.N.
- Rudneva, K.G., see Freidlin, L. Kh.
- Rybinskaya, M.I., see Nesmeyanov, A.N.
- Sadykov, A.S. Progress in research on the chemistry of alkaloids of *Anabasis Aphylla*, 471.
- Samoilov, O. Ya. Hydration of ions in aqueous solutions, 219.
- Sekeresh, L., and G. Fodor. Condensation of meso-halo derivatives of 1,3-dioxo compounds with urea, 887.
- Serpinsky, V.V., see Bering, B.P.
- Setkina, V.N., see Kursanov, D.N.
- Shagisultanova, G.A., see Grinberg, A.A.
- Shapiro, E.S., see Shostakovsky, M.F.
- Shchekotikhin, A.I., see Knunyants, I.L.
- Shchukovskaya, L.L., see Andreev, D.N.
- Sheinfain, R. Yu., see Freidlin, L. Kh.
- Shekhter, A.B., and I.I. Tretyakov. Electron microscopic investigation of changes in the surface of solid catalysts during operation, 397.
- Shepeleva, E.S., see Kabachnik, M.I.
- Shikhtiev, I.A., see Shostakovsky, M.F.
- Shirokova, P.V., see Toropov, N.A.
- Schmidt, Yu. A., see Dubrovo, S.K.
- Schmidt, Yu. A., see Piryutko, M. M.
- Shmonina, L.I., see Nazarov, I.N.
- Shorygina, N.N., and L. I. Kolotova. The chlorination of hydrolysis lignin, 505.
- Shostakovsky, M.F., and I.A. Cherkulaeva. Synthesis and reactions of vinyl ethers of ethanolamines. Communication 3. Nature of the double bond of vinyl ethers of ethanolamines, 335.
- Shostakovsky, M.F., and N.A. Gershtein. Reactions of vinyl ethers. Chemical properties of alkyl-2-chloroethyl acetals, 643.
- Shostakovsky, M.F., and N.A. Gershtein. Transformations of vinyl ethers. Synthesis of halo acetals from vinyl ethers, 927.
- Shostakovsky, M.F., N.A. Gershtein, and Z.S. Volkova. Reactions of vinyl ethers. Communication VIII.

- Reactions of acetals derived from ethylene glycol, 89.
- Shostakovskiy, M.F., and V.A. Gladyshevskaya. Comparative evaluation of the action of metal chlorides in polymerization processes. Communication 1. Catalytic polymerization of styrene in presence of ferric chloride and of stannic chloride, 319.
- Shostakovskiy, M.F., and A.M. Khomutov. Chemical reactions of unsaturated and macromolecular compounds. Communication 1. Copolymerization of methacrylic acid and alkyl vinyl ethers, 931.
- Shostakovskiy, M.F., B.I. Mikhant'ev, and N.N. Ovchinnikova. Ionic polymerization of vinyl ethers, 939.
- Shostakovskiy, M.F., B.E. Mikhant'ev, and N.N. Ovchinnikova. The indirect vinylation of monocarboxylic and hydroxy acid, 499.
- Shostakovskiy, M.F., B.I. Mikhant'ev, and N.N. Ovchinnikova. Ionic co-polymerization of vinyl ethers, 647.
- Shostakovskiy, M.F., E.N. Prilezhaeva, and E.S. Shapiro. Synthesis of sulfur compounds by the aid of vinyl ethers and acetylene. Communication 6. Reactions of thiols with vinyl ethers, 325.
- Shostakovskiy, M.F., and I.A. Shikheiv. Derivatives of tertiary unsaturated alcohols. Communication 1. Synthesis of acetylenic acetals from vinyl ethers and acetylenic alcohols, 943.
- Shostakovskiy, M.F., I.A. Shikheiv, and D.A. Kochkin. Synthesis and reactions of oxygen-containing organosilicon compounds. Communication 1. Synthesis of organosilicon acetals, 837.
- Shostakovskiy, M.F., and F.P. Sidelkovskaya. Activation of vinylcaprolactam in presence of hydrogen peroxide, 97.
- Shuikin, N.I., N.G. Berdnikova, and S.S. Novikov. Catalytic reactions of five- and six-membered cycloalkanes under a pressure of hydrogen at high temperature, 243.
- Shuikin, N.I., N.G. Berdnikova, and S.S. Novikov. High-temperature contact catalysis reactions of normal alkanes in presence of hydrogen at high pressure, 779.
- Shuikin, N.I., see Levitsky, I.I.
- Shuikin, N.I., and I.I. Levitsky. High temperature catalytic dehydrogenation of ethylcyclohexane. Communication 1. Main direction of the reaction 895.
- Shuikin, N.I., and I.I. Levitsky. Theoretical and experimental yields of styrene in the catalytic dehydrogenation of ethylbenzene, 365.
- Shuikin, N.I., see Nesmeyanov, A.N.
- Shuikin, N.I., and S.S. Novikov. Catalytic polymerization of ethylcyclopentane in the vapor phase, 251.
- Shuikin, N.I., Kh. M. Minachev, and L.M. Feofanova. Hydrogenating and dehydrogenating power of nickel catalysts on various carriers, 85.
- Shuikin, N.I., see Popov, M.A.
- Shuikin, N.I., and E.A. Timofeeva. Reactions of individual hydrocarbons in contact with activated Troshkov clay. Communication 1. Reactions of cyclohexene, 4-methylcyclohexene and 1-octene, 607.
- Sidelkovskaya, F.P., see Shostakovskiy, M.F.
- Sokolov, V.A., see Chernyaev, I.I.
- Sterligov, O.D., M.G. Gonikberg, A.M. Rubinshtein, and B.A. Kazansky. Effect of the pressure applied in the compression of an aluminamolybdenum oxide catalyst on its activity and structure, 25.
- Sterligov, O.D., see Kursanov, D.N.
- Talalaeva, T.V., and K.A. Kocheshkov. Crystalline organolithium compounds. Compounds of the aromatic series, 113.
- Talalaeva, T.V., and K.A. Kocheshkov. Crystalline organolithium compounds. Benzylolithium, 263.
- Talalaeva, T.V., and K.A. Kocheshkov. Crystalline organolithium compounds. 9-Fluorenyllithium, phenylethynyllithium, 357.
- Timofeeva, E.A., see Shuikin, N.I.
- Tolchinsky, I.M., see Topchiev, A.V.
- Tolkacheva, T. Ya., see Ponomarenko, V.A.
- Topchiev, A.V., see Andrianov, K.A.
- Topchiev, A.V., and K.A. Andrianov. Basic nomenclature and classification of low-molecular organo-silicon compounds, 439.
- Topchiev, A.V., see Nesmeyanov, A.N.
- Topchiev, A.V., Ya. M. Pauskhin, B.A. Krentsel, and I.M. Tolchinsky. Conversion of pentane into liquid hydrocarbons and gas at 250-360 atmospheres and 400-500°, 237.
- Torgov, I.V., see Nazarov, I.N.
- Toropov, N.A., A.I. Borisenko, and P.V. Shirokova. Hydrated calcium silicates, 57.
- Tretyakov, I.I., see Shekhter, A.B.
- Tsukervanik, I.P. The reactions of acetylene with aromatic compounds, 479.
- Ukhova, L.I., see Nazarov, I.N.
- Usmanov, K.H. Recent developments in the physico-chemical investigation of cotton fiber, 411.
- Vartanyan, S.A., see Nazarov, I.N.
- Vereshchagin, L.F., see Freidlin, L. Kh.
- Verkholetova, G.P., see Nazarov, I.N.
- Vinogradova, S.V., see Korshak, V.V.
- Vinogradova, S.V., see Kursanov, D.N.
- Vinokurova, G.M., see Arbuzov, B.A.
- Volkovich, S.I. Problems of the chemistry and technology of mineral fertilizers in Central Asia, 403.

- Volkenshtein, F.F. Electronic processes in chemisorption.
Communication 1, 701.
- Volkenshtein, F.F. Electronic processes in chemisorption.
Communication 2, 865.
- Volkenshtein, M.V., and E.I. Pokrovsky, Raman spectra
of two silahydrocarbons, 159.
- Volkova, Z.S., see Shostakovsky, M.F
- Zakharkin, L.I., see Nesmeyanov, A.N.
- Zaretskaya, I.I., see Kursanov, D.N.
- Zaretskaya, I.I., see Nazarov, I.N.
- Zhukova, K.A., see Goldfarb, Ya. L.
- Zvorykina, V.K., see Rodionov, V.M.

SUBJECT INDEX

1953

- Absorption spectra, of 2-aminopyridine and 1-alkyl-2(1H)-pyridonimine compounds, 129.
- Academy of Sciences, U.S.S.R., Division of Chemical Sciences, Conference on chemistry of the borates, 516.
- Acetals derived from ethylene glycol, reactions of, 89.
- Acetals, acetylenic, preparation from vinyl ethers and acetylenic alcohols, 943.
- Acetals, alkyl 2-chloroethyl, see alkyl 2-chloroethyl acetals.
- Acetals, halo, synthesis from vinyl ethers, properties, 927.
- Acetals, monothio see monothioacetals.
- Acetals, organosilicon, see organosilicon acetals.
- Acetaldehyde, effect of additions of, on the cool-flame oxidation of butane, 559.
- Acetaldehyde-water system, vapor pressure and composition, 391.
- Acetamide, complex compounds with platinum, action of ethylenediamine and ammonia, 199.
- Acetylene, kinetics of hydrogenation and activated adsorption at a nickel catalyst, 43.
- Acetylene, reactions with aromatic compounds, alkylation 479.
- Acetylene, synthesis of sulfur compounds by the aid of, 325.
- Acetylene derivatives. Heterocyclic compounds. The synthesis of some derivatives of tetrahydro- γ -thiopyrones, 455.
- Acetylene derivatives. Heterocyclic compounds. The synthesis of heterocyclic compounds containing a condensed 4-piperidone nucleus, 447.
- Acetylene derivatives. Heterocyclic compounds. Synthesis of polycyclic γ -amino alcohols and their esters, 655.
- Acetylene derivatives. Heterocyclic compounds. Synthesis of secondary and tertiary 2,5-dimethyl-1-phenyl-4-piperidonols and their esters, 275.
- Acetylene derivatives. Synthesis of β -amino ketones by the action of secondary amines on β -methoxy ketones and α,β -unsaturated ketones, 287.
- Acids, succinic, glutaric, adipic, pimelic, suberic, azelaic, sebacic, condensation with 1,20-eicosanediol, 995.
- Acids, hydroxy, indirect vinylation of, 499.
- Acids, mono- and dibasic, organosilicon esters of, preparation, properties, 121.
- Acids, monocarboxylic, indirect vinylation of, 499.
- Actinides, and periodic system of the elements, 3.
- Activation of vinylcaprolactam in presence of hydrogen peroxide, 97.
- Activity of skeletal nickel catalyst at elevated temperature, 987.
- Acyl semicarbazides of β -amino acids, formation, 61.
- Addition of alcohols and thiols to perfluoropropenes, 255.
- Addition compounds of pyridine derivatives and carbonic acid, preparation, properties, 137.
- Addition reactions of fluoroalkenes. Addition of alcohols and thiols to perfluoropropenes, 255.
- Adipic acid, acid esters of, polycondensation with various glycols, 847.
- Adsorption of gas mixtures. Adsorption of water and ethyl chloride vapors on active charcoal, 851.
- Adsorption of gas mixtures. Possibility of a statistical treatment of the adsorption phenomena of gas mixtures, 33.
- Adsorption, activated, of acetylene at a nickel catalyst, kinetics of, 43.
- Adsorption centers in the hydrogenation of acetylene over nickel, elucidation of the role of, 43.
- Adsorptional analysis, isomerization of terpene hydrocarbons by the action of silica gel, under conditions of, 747.
- Adsorptive properties of solid bodies and surface heterogeneity, effect of secondary constituents on, 371.
- Agricultural chemistry. Problems of the chemistry and technology of mineral fertilizers in Central Asia, 403.
- The reactions of acetylene with aromatic compounds, 479.
- Akimov, Georgy Vladimirovich, obituary notice, 509.
- Alcohols, addition to perfluoropropenes, 255.
- Alcohols, formation by reaction of Grignard reagent from 3-chloro-2,4-dimethyl-1-pentene and 2,4-dimethyl-3-pentanone, ethyl formate and amyl butyrate, 907.
- Alcohols, formation in the iso synthesis of hydrocarbons, 913.
- Alcohols, acetylenic, properties, reaction with alkyl vinyl ethers to form acetals, 943.
- Alcohols, of decahydroquinoline, perhydro-1-pyridine and perhydrobenzoquinoline series, preparation, 655.
- Alcohols, tertiary, unsaturated, derivatives of; synthesis of acetylenic acetals from vinyl ethers and acetylenic alcohols, 943.

- Aldehydes, reaction with dialkyl hydrogen phosphites and ammonia, 769.
- Aldehydes, reaction with phosphorous and phosphinous chlorides, 763.
- Alkanes, $\alpha, \alpha, \alpha, \omega$ -tetrachloro- and α, α, α -trichloro-, splitting off hydrogen chloride, from, 879.
- 2-Alkylbenzopyranyl salts (ferrichlorides), preparation, from β -chlorovinylketones, 429.
- 2-Alkyl-naphthobenzopyranyl salts, preparation (ferrichlorides, perchlorates), from β -chlorovinyl ketones, 429.
- Alkyl 2-chloroethyl acetals, preparation, properties, reactions, 643.
- Alkylphosphonic acids. 1-amino, see 1-amino-alkylphosphonic acids.
- Alkyl vinyl ethers, preparation, properties, copolymerization with methacrylic acid, 931.
- Alkyl vinyl ethers, reactions with trialkylsilanols, 837.
- Alkylation of aromatic compounds with acetylene, 479.
- β -Alanines, N-acylated- β -piperonyl, amides of, reaction with alkaline hypobromites, 461.
- Alkaloids of *Anabasis Aphylla*, isolation and chemistry of, 471.
- Alkaloid chemistry, its significance and its immediate problems, 351.
- Alkanes, cyclo, see cycloalkanes.
- Alkanes, normal; high-temperature contact-catalysis reaction of, in presence of hydrogen at high pressure, 779.
- 5-Alkyl-1,3,4-oxadiazol-2(3 H)-ones, preparation, and study of their reactions with ammonia, 61.
- 1-Alkyl-2(1 H)-pyridonimine compounds, preparation, relative basicities of nitrogen atoms in, absorption spectra, 129.
- Alkyl vinyl ethers, addition of 2-chloroethanol, 927.
- Alkyl vinyl ethers, ionic polymerization of, 939.
- Alkyl vinyl ethers, properties, reaction with acetylenic alcohols to form acetals, 943.
- Allo-ocimene, autoxidation and the intermediate products formed in the autoxidation process, 421.
- Alloys, chromium, and solubility of elements in chromium, 871.
- Alloys, iron-chromium-nickel-manganese, composition-heat strength diagram for, 387.
- Alumina, as carrier for nickel catalysts in hydrogenating and dehydrogenating reactions, 85.
- Alumina, as catalyst in the synthesis of hydrocarbons from carbon monoxide and hydrogen, 913.
- γ -Alumina, deformation of crystal lattice in compressed catalysts, 30.
- Alumina-molybdenum oxide catalyst, see catalyst, alumina-molybdenum oxide.
- Aluminum chloride, as catalyst in polycondensation of 1-bromo-3-chloropropane with benzene, 307.
- Aluminum chloride, as catalyst in splitting of HCl from tetrachloro- and trichloro-alkanes, 879.
- Aluminosilicates, reactions with aqueous solutions, 535.
- Amides, of N-acylated- β -piperonyl- β -alanines, reaction with alkaline hypobromites, 461.
- Amination, catalytic, of ketones of various structures, 81.
- Amines, limiting currents associated with the catalytic discharge of hydrogen ions in presence of, 715.
- Amines, primary, formation by reductive amination of ketones over platinized silica gel, 81.
- Amines, secondary, reaction with 2-chlorovinyl ketones, 883.
- Amines, secondary, reaction with β -methoxy ketones and α, β -unsaturated ketones, to form β -amino ketones, 287.
- β -Amino acids, synthesis and characterization, 231.
- γ -Amino alcohols and their esters, preparation, 655.
- 1-Aminoalkylphosphonic acids, new method for the synthesis of, 769.
- 2-Amino-5-benzoyloxazole, preparation, properties, hydrochloride, acetyl derivative, chemical reactions, 887.
- Amino ketones, see ketones, amino.
- Aminomethylphosphonic acid, acylation, alkylation, derivatives, 999.
- 2-Aminopyridine compounds, relative basicities of nitrogen atoms, in, absorption spectra, 129.
- 2-Aminovinyl ketones. Synthesis of alkyl-2-dialkylaminovinyl ketones, 883.
- Ammonia, reaction with 5-alkyl-1,3,4-oxadiazol-2(3 H)-ones, 61.
- Ammonia-acetamide-platinum compounds, preparation, structure, 199.
- Amyl butyrate, reaction with Grignard reagent from 2-chloro-2,4-dimethyl-1-pentene, 907.
- Anabasine, isolation, oxidation, fission, ammination, sulfonation, cyanethylation, reaction with aliphatic oxides, 471.
- Anabasis Aphylla*, alkaloids of, isolation and chemistry, 471.
- Analytical chemistry. Methods of determining silicic acid in silicates by dehydrating solutions of the acid, 379.
- State of silicic acid in solution and methods for its colorimetric determination, 545.
 - Volumetric-gravimetric method for the measurement of simultaneous adsorption from binary mixtures of gases or vapors on solid adsorbents, 851.
- Anthracene and derivatives, structure, 21.
- Anthraquinone, structure of, 21.
- Apparatus, for the determination of the partial vapor pressure of acetaldehyde by the dynamic method, 392.
- Apparatus, for the depolymerization of dicyclo-

- pentadiene by the continuous method, 101.
- Apparatus, volumetric, for the measurement of sorption, 565.
- Asia, Central, problems of the chemistry and technology of mineral fertilizers in, 403.
- Atomic nuclei of the elements, classification on the basis of the packing effect and the layered structure of the atomic nucleus, 11.
- Atomic nuclei, Periodicity in the structure of 11.
- Autoxidation of allo-ocimene and the intermediate products formed in the autoxidation process, 421.
- Award of D.I. Mendeleev Prizes for 1952, 361.
- Bases, organic, relation between the structure of, and their ability to form addition compounds with carbonic acid; pyridine derivatives, 137.
- Basicities, relative, of nitrogen atoms in compounds of the 2-aminopyridine and 1-alkyl-2-(1H)-pyridonimine types, 129.
- Benzene, hydrogenation and dehydrogenation with nickel catalysts, influence of carrier, 85.
- Benzene, ethyl, see ethylbenzene.
- Benzoquinoline, perhydro, see perhydrobenzoquinoline.
- Benzoquinoline compounds, preparation, properties, picrates, 447.
- Benzoyl peroxide, use in activation of reaction of halogen derivatives with mercury, 589.
- Benzyl lithium, preparation, properties, 263.
- Berthollides, properties, 707.
- Bis(chloromethyl)ethers of glycols, reaction with sodium alkoxides, 735.
- Borates, conference on the chemistry of, 516.
- (Bromomercuri)phenylacetic acid, see phenylacetic acid (bromomercuri).
- 1,3-Butadiene, 2-methoxy, see 2-methoxy-1,3-butadiene.
- Butane, effect of additions of diethyl peroxide and acetaldehyde on the cool-flame oxidation of, 559.
- Butane-1- C^{14} , synthesis, apparatus, 1003.
- 1-Butene-4- C^{14} , synthesis, apparatus, hydrogenation, 1003.
- Butlerov, A.M. from the committee on the development of the scientific heritage of, and the publishing of his works, 363.
- Butlerov, A.M. In celebration of the 125th anniversary of his birth, general and inorganic chemistry, 691.
- 1-Butyl-2-methylcyclopentanes, see cyclopentanes, 1-butyl-2-methyl.
- Cesium chloride, preparation, analysis, solubility isotherms for system with $LiCl-H_2O$, 723.
- Calcium, effect on adsorptive properties of active carbon and surface heterogeneity, 371.
- Calcium glycerate, formation, in the preparation of hydrated calcium silicates, 59.
- Calcium nitrate, determination of the distribution coefficients of radium and of its isotope ThX between melt and crystals of, 227.
- Calcium silicates, hydrated, preparation, properties, analysis, 57.
- 3-Camphenilancarboxaldehyde, condensation reactions with ketones and esters, 727.
- Caprolactam, vinyl, see vinylcaprolactam.
- Carbon, activated, adsorption of gas mixtures on, 33.
- Carbon, active, effect of secondary constituents on surface heterogeneity as shown by adsorptive properties; adsorption of oxygen, hydrogen, carbon monoxide, 371.
- Carbon monoxide, catalytic hydrocondensation with olefins (cyclohexene), 631.
- Carbon monoxide, reaction with hydrogen in the iso-synthesis of hydrocarbons, 913.
- Carbon tetrachloride, reaction with mercury, 595.
- Carbon tetrachloride solutions of chlorine, use for chlorination of hydrolysis lignin, 505.
- Carbonic acid, relation between the structure of organic bases and their ability to form addition compounds with; pyridine derivatives, 137.
- Carriers, various, for nickel catalysts, relationship to hydrogenating and dehydrogenating power, 85.
- Catalysis, heterogeneous, electronic processes in chemisorption, 701.
- Catalysis, hydrocondensation, behavior of cyclohexene in, 631.
- Catalysis reactions, high-temperature, contact-, of normal alkanes in presence of hydrogen at high pressure, 779.
- Catalysts, for the synthesis of hydrocarbons from carbon monoxide and hydrogen, 913.
- Catalysts, alumina-molybdenum oxide, effect of pressure applied in compression on activity and structure, x-ray analysis, productivity, specific activity and stability in the reactions of dehydrocyclization of heptane and dehydrogenation of cyclohexane, 25.
- Catalysts, aluminosilicate, aluminochrome, aluminomolybdenum, alumina, influence on conversion of pentane, 240.
- Catalysts, aluminum-chromium-molybdenum, aluminum-vanadium, in the dehydrogenation of ethylbenzene, 365.
- Catalysts, aluminum-chromium-molybdenum oxide, use in the dehydrogenation of ethylcyclohexane and ethylbenzene, 895.
- Catalyst, aluminum-vanadium oxide, use in the dehydrogenation of ethylcyclohexane and ethylbenzene, 895, 903.

Catalyst, nickel as, in hydrogenation of isoprene, 601.

Catalysts, nickel, hydrogenating and dehydrogenating power on various carriers, 85.

Catalyst, nickel, investigation of the kinetics of hydrogenation and activated adsorption of acetylene at, 43.

Catalyst, platinum-alumina, in catalytic reactions of five- and six-membered cycloalkanes under a pressure of hydrogen at high temperature, 243.

Catalyst, skeletal nickel, stability at elevated temperature, influence of nitrogen, vacuum, use for hydrogenation of phenyl vinyl ether, 987.

Catalysts, solid (Pt, Pd, Cu, Fe, alloys of platinum and rhodium), electron microscopic investigation of changes during operation, 397.

Catalytic discharge of hydrogen ions, limiting currents, theory of, 551.

Catalytic discharge of hydrogen ions in presence of amines, limiting currents associated with; catalytic effect of quinine, 715.

Catalytic properties, of silica gel, effect of compression on, 841.

Catalytic reactions of five- and six-membered cycloalkanes under a pressure of hydrogen at high temperature, 243.

Cellulose, chemical changes produced by oxidation with hydrogen peroxide, 341.

Cellulose, cotton, recent developments in the physicochemical investigation of, 411.

Cements, hydraulic, in the Central Asian Republics, composition, hardening, additives, sulfate stability, 571.

Charcoal, active, adsorption of water and ethylchloride vapors on, 851.

Chemical changes in cellulose produced by oxidation with hydrogen peroxide, 341.

Chemical reactions of unsaturated and macromolecular compounds. Copolymerization of methacrylic acid and alkyl vinyl ethers, 931.

Chemisorption, electronic processes in, 701.

Chemisorption, electronic processes in, 865.

Chemistry and technology of mineral fertilizers in Central Asia, 403.

Chlorination of hydrolysis lignin, 505.

Chloroamines, isomeric, of platinum, thermochemical investigation of, apparatus, 193.

3-Chloro-2,4-dimethyl-1-pentene, Grignard reagent from, reaction with 2,4-dimethyl-3-pentanone, ethyl formate and amyl butyrate, 907.

2-Chloroethanol, addition to alkyl vinyl ethers, 927.

Chlorohydrins, addition to alkyl vinyl ethers, 927.

β -Chlorovinyl ketones, see ketones, β -chlorovinyl.

Chromatographic activity, of silica gel, effect of compression on, 843.

Chromium, solubility of the elements in, formation of solid solutions, 871.

Chromium oxide, as carrier for nickel catalysts in hydrogenating and dehydrogenating reactions, 85.

Chrysene, synthesis of steroid ketones from, 955.

Chrysenes, methyl, see methylchrysenes.

Citraconic anhydride, condensation with 3,4,4a,7,8,8a-hexahydro-4a-methyl-5-vinyl-2(1H)-naphthalenone and 3,4,4a,5,6,8a-hexahydro-8a-methyl-8-vinyl-2(1H)-naphthalenone, 817.

Classification of the atomic nuclei of the elements on the basis of the packing effect and the layered structure of the atomic nucleus, 11.

Classification and nomenclature of low-molecular organo-silicon compounds, 439.

Classification and nomenclature of macromolecular compounds, 293.

Clay, activated Troshkov, reactions of cyclohexene, 4-methylcyclohexene, and 1-octene in contact with, 607.

Cobalt amines, preparation, structure, 215.

Cobalt complex compounds, structure of, 215.

Colorimetric determination of silicic acid in solution, 545.

Complex compounds, geometric isomerism and properties of, 177.

Complex compounds of platinum with acetamide, action of ethylenediamine and ammonia, 199.

Complex compounds of platinum with diallylamine, preparation, reactions, structure, 209.

Compression of an alumina-molybdenum oxide catalyst, effect of pressure applied, on activity and structure, 25.

Compression, effect of, on the porosity, catalytic properties, and chromatographic activity of silica gel, 841.

Condensation of meso-halo derivatives of 1,3-dioxo compounds with urea, 887.

Condensation of 2-methyl-2-cyclohexen-1-one with 2-methoxy-1,3-butadiene, 69.

Condensation of 3,4,4a,7,8,8a-hexahydro-4a-ethyl-5-vinyl-2(1H)-naphthalenone and 3,4,4a,5,6,8a-hexahydro-8a-methyl-8-vinyl-2(1H)-naphthalenone with 2,4-dimethyl-2-cyclopenten-1-one, 799.

Condensation of 3,4,4a,7,8,8a-hexahydro-4a-methyl-5-vinyl-2(1H)-naphthalenone and 3,4,4a,5,6,8a-hexahydro-8a-methyl-8-vinyl-2(1H)-naphthalenone with 2-cyclohexen-1-ones and with citraconic anhydride, 817.

Condensation of 3,4,4a,5,8,8a-hexahydro-8a-1-vinyl-naphthalene with α,β -unsaturated cyclic ketones, to form steroids, 955.

Condensation, dehydrational, in the mechanism of the iso-synthesis, 913.

- Condensation, poly, see polycondensation.
- Condensation reactions of 3-camphenilane-carboxaldehyde with ketones and esters, 727.
- Conference on the chemistry of the borates, 516.
- Conversion of pentane into liquid hydrocarbons and gas at 250-360 atmospheres and 400-500°, 237.
- Copolymerization of methacrylic acid and alkyl vinyl ethers, 931.
- Copolymerization, ionic, of vinyl ethers, 647.
- Cotton fiber, recent developments in the physico-chemical investigation of, viscosity, degree of polymerization, sorption, desorption, deformation, 411.
- Crystals, binary inorganic, thermodynamic stability of various structures in, 695.
- Crystallographic data, determination of structure and structural formulas of organic compounds from, 19.
- Currents, limiting, associated with the catalytic discharge of hydrogen ions in presence of amines; catalytic effect of quinine, 715.
- Cyanine dyes, Synthesis of 3-methyl-4-p-tolylbenzo-[f] quinolinium iodide and some of its reactions, 949.
- Cyclization of 2-methyl-1,5-hexadien-3-one, with the aid of deuterium, 103.
- Cyclization of mixtures of methoxy ketones with phosphoric acid, HCl, 797.
- Cyclization with deuterium, reaction mechanism of, 467.
- Cyclization with the aid of deuterium, mechanism of, 103.
- Cycloalkanes, five- and six-membered, catalytic reactions of, under a pressure of hydrogen at high temperature, 24.
- Cycloalkanes, formation in thermocatalytic conversion of pentane, 237.
- Cycloalkanes, 1,2-dialkyl, preparation of. Synthesis of the stereoisomeric 1-butyl-2-methylcyclopentanes, 617.
- 2-Cycloalken-1-ones, preparation, properties, 787.
- Cyclohexane, activity of compressed catalysts on the dehydrogenation of, 28.
- Cyclohexane, hydrogenation and dehydrogenation with nickel catalysts, influence of carrier, 85.
- Cyclohexane, properties, catalytic reactions under a pressure of hydrogen at high temperature, 243.
- Cyclohexane, ethyl, see ethylcyclohexane.
- Cyclohexene, behavior in hydrocondensation catalysis, hydrogenation, methylation, 631.
- Cyclohexene, reactions in contact with activated Troshkov clay, properties, formation of aromatic hydrocarbons, isomerization, cracking, 607.
- Cyclohexenes, 1-methyl, 1,2-dimethyl, formation on catalytic hydrocondensation of cyclohexene, 635.
- Cyclohexene, 4-methyl-, reactions in contact with activated Troshkov clay, formation of aromatic hydrocarbons, isomerization, cracking, properties, 607.
- 2-Cyclohexen-1-ones, condensation with 3,4,4a,7,8,8a-hexahydro-4a-methyl-5-vinyl-2(1H)-naphthalenone and 3,4,4a,5,6,8a-hexahydro-8a-methyl-8-vinyl-2(1H)-naphthalenone, 817.
- Cyclopentadiene, preparation by depolymerization of dicyclopentadiene, 101.
- Cyclopentane, and methyl-, properties, catalytic reactions under a pressure of hydrogen at high temperature, 243.
- Cyclopentanes 1-butyl-2-methyl, preparation, properties, 617.
- Cyclopenta[a]phenanthrene, hydrogenated, preparation of steroid ketones from, 955.
- 2-Cyclopenten-1-one, condensation with 3,4,4a,7,8,8a-hexahydro-4a-methyl-5-vinyl-2(1H)-naphthalenone and 3,4,4a,5,6,8a-hexahydro-8a-methyl-8-vinyl-2(1H)-naphthalenone, 827.
- Cyclopentenone, dimethyl, see dimethylcyclopentenone.
- Cyclopentenone, monodeuteriodimethyl, see monodeuteriodimethylcyclopentenone.
- Daltonides, properties, 707.
- Decahydro-4-hydroxy-1,2,8a-trimethylcinchoninonitrile, acid, esters, preparation, 655.
- Decahydroquinoline compounds, preparation, properties, picrates, isomerization, 447.
- Decahydroquinoline series, preparation of alcohols, esters, 655.
- Deformation of crystal lattice of γ - Al_2O_3 in compressed catalysts, 30.
- Dehydration conditions, (time and temperature of dehydration, presence of salts) effect on separation of silicic acid from solutions, 379.
- Dehydrogenating and hydrogenating power of nickel on various carriers, 85.
- Dehydrogenation, catalytic, of ethylbenzene, theoretical and experimental yields of styrene, 365.
- Dehydrogenation, high temperature, catalytic, of ethylcyclohexane; main direction of the reaction, 895.
- Dehydrogenation, high temperature catalytic, of ethylcyclohexane. Thermodynamic equilibrium in the dehydrogenation of ethylbenzene under the conditions of its formation from ethylcyclohexane, 903.
- Deuterium, in the investigation of the polyester exchange reaction, 125.
- Deuterium, mechanism of cyclization with the aid of, 103.
- Deuterium, study of reaction mechanism of cyclization with, 467.
- Dialkyl hydrogen phosphites, reaction with aldehydes and ammonia, 769.
- Dialkyl thiophosphites, pseudomerism, structure and properties, 145.

- Diallylamine, complex compounds of platinum with, preparation, reactions, structure, 209.
- Diallylmethylsilane, see silane, diallylmethyl.
- Diammines, platinum, see platinum diammines.
- Diarylethylenes, unsymmetrical, relation between polymerization capacity and structure, 487.
- Diastereoisomers of di-(α)-menthyl ester of mercuribis phenylacetic acid, preparation, properties, reaction with mercuric bromide, 753.
- Diastereoisomers of (β)-menthyl esters of (bromo-mercuri)phenylacetic acid, preparation, properties, 583.
- Dibromodinitroplatinate (II) ion, isomerism of, 861.
- Dichlorodiammineplatinums, *cis*- and *trans*-, reactions in solutions of, in presence of ultraviolet radiation, absorption spectra, 205.
- Dicyclopentadiene, polymerization by the continuous method, 101.
- Dienes, bicyclic, diene condensation with cyclic γ -keto sulfones to form sulfur analogs of steroids, 969.
- Diene condensation of cyclic γ -keto sulfones with bicyclic dienes to form sulfur analogs of steroids, 969.
- Diene-condensation method, synthesis of compounds related to estrone by, 977.
- Diethers of 2-mercaptoethanol, preparation, properties, 325.
- Diethyl peroxide, effect of additions of, on the cool-flame oxidation of butane, 559.
- Diethyl succinate-2,3- d_2 , preparation, polyesters exchange reaction with polyhexamethylene sebacate, 125.
- 1,2-Dihydro-7-methoxy-4-vinylnaphthalene, preparation, properties, condensation with cyclic ketones to estrone derivatives, 977.
- Diketones of steroids, preparation, properties, 799.
- Diketones, of steroids, preparation, properties, isomerization, Clemmensen reduction, 817.
- Diketones, of steroids, preparation, isomerization, Clemmensen reduction, 827.
- Dimethylcyclopentanone, formation, 793.
- 2,4-Dimethyl-2-cyclopenten-1-one, condensation with 3,4,4a,7,8,8a-hexahydro-4a-methyl-5-vinyl-2(1H)- and 3,4,4a,5,6,8a-hexahydro-8a-methyl-8-vinyl-2(1H)-naphthalenone, 799.
- 3,5-Dimethyl-3-cyclopentene-1,2-dione, condensation with 3,4,4a,7,8,8a-hexahydro-4a-methyl-5-vinyl-2(1H)-naphthalenone and 3,4,4a,5,6,8a-hexahydro-8a-methyl-8-vinyl-2(1H)-naphthalenone, 827.
- Dimethylcyclopentenone, formation by cyclization of 2-methyl-1,5-hexadien-3-one with the aid of deuterium, 103.
- 3,5-Dimethyl-3-cyclopentene-1,2-dione, condensation with 3,4,4a,7,8,8a-hexahydro-4a-methyl-5-vinyl-2(1H)-naphthalenone and 3,4,4a,5,6,8a-hexahydro-8a-methyl-8-vinyl-2(1H)-naphthalenone, 827.
- 2,6-Dimethyloctatriene-2,4,6, see allo-ocimene.
- 3,3-Dimethylpentane, frequencies of valency vibrations, 269.
- 2,4-Dimethyl-3-pentanone, reaction with Grignard reagent from 3-chloro-2,4-dimethyl-1-pentene, 907.
- 2,5-Dimethyl-1-phenyl-4-piperidinols, secondary and tertiary, and their esters, preparation, properties, 275.
- 2,5-Dimethyltetrahydro-1-thiopyran-4-one derivatives, preparation, (oxime, amine, hydrochloride, acetyl and benzoyl derivatives), 455.
- Dinitrodiammineplatinum, isomerism of, 861.
- 1,3-Dioxo compounds, meso-halo derivatives of, condensation with urea, 887.
- Distribution coefficients of radium and of its isotope ThX between melt and crystals of calcium nitrate, 227.
- Disulfides of O,O,-dialkyl hydrogen phosphorothiolothionates, formation, 109.
- Double bond, in vinyl ethers of ethanolamines, 335.
- Double-diazonium salt method for synthesis of organoantimony compounds, use of the salt $(C_6H_5N_2Cl)_2 \cdot SbCl_5$, 271.
- Dyestuffs chemistry. Cyanine dyes. Synthesis of 3-methyl-4-p-tolylbenzo[f]quinolinium iodide and some of its reactions, 949.
- Effect of the pressure applied in the compression of an alumina-molybdenum oxide catalyst, on its activity and structure, 25.
- Effect of secondary constituents on the nature of the surface heterogeneity of solid bodies as shown by their adsorptive properties, 371.
- 1,20-Eicosanediol, polycondensation with succinic, glutaric, adipic, pimelic, suberic, azelaic and sebacic acids and with esters of oxalic and malonic acids, 995.
- Electrical resistance and hardness of quaternary alloys of iron-chromium-nickel-manganese, 387.
- Electrochemistry. Limiting currents associated with the catalytic discharge of hydrogen ions in presence of amines; catalytic effect of quinine, 715.
- Electron envelopes, periodicity in the structure of, 11.
- Electron microscopic investigations of changes in the surface of solid catalysts during operation, 397.
- Electronic processes in chemisorption, 701.
- Electronic processes in chemisorption, 865.
- Elements, solubility in chromium, formation of solid solutions, 871.
- Enamine compounds, (alkyl 2-dialkylaminovinyl ketones), preparation, properties, 883.
- Esters of γ -amino alcohols, preparation, 655.
- Esters, poly, see polyesters.
- Esters of secondary and tertiary 2,5-dimethyl-1-

- phenyl-4-piperidinols, preparation, properties, 275.
- Esters, acid, of adipic acid, polycondensation with various glycols, 847.
- Esters, ethyl, of orthopropionic and orthosilicic acids, action of phosphorus trichloride on, 433.
- Esters, condensation reactions with 3-camphenilane-carboxaldehyde, 727.
- Esters, organosilicon, of mono- and di-basic acids, preparation, properties, hydrolysis, 121.
- Esterification, poly, see polyesterification.
- Estrone, synthesis of compounds related to, by the diene-condensation method, 977.
- Ethanolamines, vinyl ethers, of, preparation, properties, reactions, nature of the double bond, 335.
- Ethers, formation in the iso-synthesis, of hydrocarbons, 913.
- Ethylbenzene, catalytic dehydrogenation of, theoretical and experimental yields of styrene, 365.
- Ethylbenzene, formation from ethylcyclohexane, high temperature catalytic dehydrogenation of, 895.
- Ethylbenzene, thermodynamic equilibrium in the dehydrogenation of, under the conditions of its formation from ethylcyclohexane, 903.
- Ethyl chloride and water vapors, adsorption on active charcoal, 851.
- Ethylcyclohexane, high temperature catalytic dehydrogenation of; main direction of the reaction, 895.
- Ethylcyclohexane, high temperature catalytic dehydrogenation of; thermodynamic equilibrium in the dehydrogenation of ethylbenzene under the conditions of its formation from ethylcyclohexane, 903.
- Ethylcyclopentane, catalytic isomerization in the vapor phase, properties, 251.
- Ethylene, adsorption on activated carbon, 40.
- Ethylene, catalytic oxidation with heavy oxygen, 625.
- Ethylene derivatives, stereochemical factors in polymerization of, 991.
- Ethylenes, diaryl, see diarylethylenes.
- Ethylene diamine-acetamide-platinum compounds, preparation, structure, 199.
- Ethylene glycol acetals, reactions of, 89.
- Ethylenes, halogen-substituted, effect of stereochemical factors on the polymerizability of, 313.
- Ethyl formate, reaction with Grignard reagent from 3-chloro-2,4-dimethyl-1-pentene, 907.
- Ethynylmagnesium bromide, preparation, condensation with aromatic and hydrogenated aromatic ketones, 977.
- Evaluation, comparative, of the action of metal chlorides in polymerization processes. Catalytic polymerization of styrene in presence of ferric chloride and of stannic chloride, 319.
- Exchange reactions, interchain, application in linear polycondensation processes, 669.
- Exchange reaction, polyesters, see polyester exchange reaction.
- Ferric chloride, catalyst in ionic polymerization of alkyl vinyl ethers, 939.
- Ferric chloride, as catalyst in polycondensation of 1-bromo-3-chloropropane with benzene, 307.
- Ferric chloride, catalytic polymerization of styrene in presence of, 319.
- Ferric chloride, anhydrous, as catalyst in splitting of HCl from tetrachloro- and trichloroalkanes, 879.
- Fertilizers, mineral, problems of the chemistry and technology of, in Central Asia, 403.
- 9-Fluorenyllithium, preparation, properties, 357.
- Fluoroalkenes, addition reactions of, 255.
- Fluorotri-*p*-tolylsilane, see silane, fluorotri-*p*-tolyl.
- Gas mixtures, adsorption of; adsorption of water and ethyl chloride vapors on active charcoal, 851.
- Gas mixtures, conditions for ignition of, 559.
- Gas mixtures, possibility of a statistical treatment for the adsorption of, 33.
- Glitzh, as additive for hydraulic cements, 571.
- Glycerol, use in the preparation of hydrated calcium silicates, 58.
- Glycols, bis(chloromethyl)ethers of, reaction with sodium alkoxides, 735.
- Glycols, various, polycondensation with acid esters of adipic acid, 847.
- Gravimetric determination of silicic acid in silicates, 379.
- Grebenshchikov, Ilya Vasilyevich, obituary notice, 521.
- Grignard reagent from 3-chloro-2,4-dimethyl-1-pentene, reaction with 2,4-dimethyl-3-pentanone, ethyl formate and amyl butyrate, 907.
- Grignard synthesis of tetraphenylsilane, tetra-*p*-tolylsilane, and fluoro-tri-*p*-tolyl-silane, 761.
- Halogen compounds, organic, reaction with mercury to form organomercury compounds, 589.
- Heats of formation of aqueous acetaldehyde solutions, 395.
- Heat of solution curves for aqueous acetaldehyde solutions, 395.
- Heptane, activity of compressed catalysts in dehydrocyclization of, 27.
- Heterocyclic compounds containing a condensed 4-piperidone nucleus, preparation, properties, 447.
- Heterocyclic compounds. Synthesis of polycyclic γ -amino alcohols and their esters, 655.
- Heterocyclic compounds, the synthesis of some derivatives of tetrahydro- γ -thiopyrones, 455.
- Heterogeneity, surface, see surface heterogeneity.
- Heterogeneous equilibria in the systems $\text{LiCl}-\text{RbCl}-\text{H}_2\text{O}$ and $\text{LiCl}-\text{CsCl}-\text{H}_2\text{O}$, 723.

- Hexamethylene glycol, polycondensation with sebacic acid, 483.
- High polymer chemistry. Chemical changes produced in the cellulose macromolecule by oxidizing agents. Chemical changes in cellulose by oxidation with hydrogen peroxide, 341.
- High polymer chemistry. Chemical reactions of unsaturated and macromolecular compounds. Copolymerization of methacrylic acid and alkyl vinyl ethers, 931.
- High polymer chemistry. Ionic polymerization of vinyl ethers, 939.
- High polymer chemistry. Macromolecular compounds. Application of interchain exchange reactions in linear polycondensation processes, 669.
- High polymer chemistry. Macromolecular compounds. Effect of stereochemical factors on the polymerizability of halogen-substituted ethylenes, 313.
- High polymer chemistry. Macromolecular compounds. Elementary reactions of the polyesterification process, 483.
- High polymer chemistry. Macromolecular compounds. Investigation of the polyester exchange reaction by the use of deuterium, 125.
- High polymer chemistry. Macromolecular compounds. Polycondensation of acid esters of adipic acid with various glycols, 847.
- High polymer chemistry. Macromolecular compounds. Polycondensation of 1-bromo-3-chloropropane with benzene, 307.
- High polymer chemistry. Macromolecular compounds. Polyesters of 1,20-eicosanediol, 995.
- High polymer chemistry. Macromolecular compounds. The relation between the polymerization capacity and the structure of some unsymmetrical diaryl-ethylenes, 487.
- High polymer chemistry. Macromolecular compounds. Role of stereochemical factors in the polymerization process, 991.
- High polymer chemistry. Macromolecular compounds. Stereochemistry of α -methylstyrenes in its relation to their tendency to undergo polymerization, 675.
- High polymer chemistry. Macromolecular compounds. Steric hindrance in the polymerization of nuclear-substituted styrenes, 491.
- High polymer chemistry. Systematics of macromolecular compounds. (Nomenclature and classification of macromolecular compounds), 293.
- Hofmann reaction, new information on. Reaction of amides of N-acylated β -piperonyl- β -alanines with alkaline hypobromites, 461.
- Hydration of ions in aqueous solution, theory of, 219.
- Hydrazides of β -amino acids, formation, 61.
- Hydrocarbons, saturated, and sulfuric acid, hydrogen exchange between, 921.
- Hydrocarbons, synthesis from carbon monoxide and hydrogen in presence of catalysts (iso synthesis), semicatalytic hydrogenation and dehydrational condensation in, 913.
- Hydrocarbons, liquid, and gas, conversion of pentane into, at 250-360 atmospheres and 400-500°, 237.
- Hydrocarbons, saturated, unsaturated, aromatic, formation in reactions of cyclohexene, 4-methylcyclohexene and 1-octene in contact with activated Troshkov clay, 607.
- Hydrocarbons, unsaturated, catalytic oxidation with heavy oxygen, 625.
- Hydrocondensation, catalytic, of carbon monoxide with olefins. Behavior of cyclohexene in hydrocondensation of catalysis, 631.
- Hydrochloric acid solutions, reaction with vitreous sodium silicates, 535.
- Hydrogen at high pressure, high-temperature contact-catalysis reactions of normal alkanes in presence of, 779.
- Hydrogen, reaction with carbon monoxide in the iso synthesis of hydrocarbons, 913.
- Hydrogen chloride, splitting off from $\sigma, \sigma, \alpha, \omega$ -tetrachloroalkanes and α, α, α -trichloroalkanes, 879.
- Hydrogen exchange between saturated hydrocarbons and sulfuric acid, 921.
- Hydrogen ions, limiting currents associated with the catalytic discharge of, in presence of amines; catalytic effect of quinine, 715.
- Hydrogen ions, theory of limiting catalytic currents associated with the discharge of, 551.
- Hydrogen peroxide, activation of vinylcaprolactam in presence of, 97.
- Hydrogen peroxide, chemical changes produced in cellulose by oxidation with, 341.
- Hydrogen peroxide, concentrated, systems containing. Solubility isotherms for the ternary system $\text{CO}(\text{NH}_2)_2\text{-H}_2\text{O}_2\text{-H}_2\text{O}$, 51.
- Hydrogen pressure at high temperature, catalytic reactions of five- and six-membered cycloalkanes under, 243.
- Hydrogenating and dehydrogenating power of nickel catalysts on various carriers, 85.
- Hydrogenation of isoprene in presence of platinum, palladium and nickel, 601.
- Hydrogenation and activated adsorption of acetylene at a nickel catalyst, kinetics of, 43.
- Hydrogenation, catalytic, of doubly unsaturated compounds having a conjugated system of double bonds, 601.
- Hydrogenation, semicatalytic, and dehydrational condensation in the mechanism of the iso synthesis, 913.
- Hypobromites, alkaline, reaction with amides of N-acylated β -piperonyl- β -alanines, 461.

Ignition of gas mixtures, conditions for, 559.

Inorganic compounds, binary, thermodynamic stability of various structures of, 695.

Insecticides, the reactions of acetylene with aromatic compounds, 479.

Ions, theory of hydration in aqueous solution, 219.

Ion, $[\text{CO}(\text{NO}_2)_4(\text{NH}_3)_2]'$, structure, compounds with silver, potassium, 215.

Ion, dibromodinitroplatinate, see dibromodinitroplatinate, ion.

Ion exchange, scientific and technical session on, 161.

Isomerism of the dibromodinitroplatinate (II) ion, 861.

Isomerism, geometric, and properties of complex compounds, 177.

Isomerism, geometric and enantiomorphic, of the triammines $(\text{EnAmPtClBrNO}_2)_X$, 183.

Isomerization of terpene hydrocarbons by the action of silica gel under the conditions of adsorption analysis, 747.

Isomerization, catalytic, of ethylcyclopentane in the vapor phase, 251.

Isoprene, properties, hydrogenation in presence of platinum, palladium and nickel, 601.

Iso synthesis, see hydrocarbons, synthesis.

Ketones, of various structures, catalytic amination of, 81.

Ketones, condensation reactions with 3-camphenilane-carboxaldehyde, 727.

Ketones, alkyl 2-dialkylaminovinyl, preparation properties, molecular refraction, 883.

Ketones, β -amino, synthesis by the action of secondary amines on β -methoxy ketones and α, β -unsaturated ketones, 287.

Ketones, aromatic, and hydrogenated aromatic, condensation with ethynylmagnesium bromide, 977.

Ketones, β -chlorovinyl, preparation of 2-alkylnaphtho- and 2-alkylbenzopyranyl salts from, 429.

Ketones, 2-chlorovinyl, reaction with secondary amines, 883.

Ketones, cyclic, α, β -unsaturated, condensation with 3,4,4a,5,8,8a-hexahydro-8a-methyl-1-vinyl-naphthalene, 955.

Ketones, cyclic, α, β -unsaturated, preparation, properties, 787.

Ketones, β -methoxy, and α, β -unsaturated, reaction with secondary amines to form β -amino ketones, 287.

Ketones, steroid, derived from hydrogenated cyclopenta-[a]phenanthrene and chrysene, preparation, properties, 955.

Ketones, tetracyclic, related to estrone, preparation, 977.

Kinetics of cool-flame oxidation of butane, effect of additions of diethyl peroxide and acetaldehyde on, 559.

Kinetics of hydrogenation and activated adsorption of acetylene over a nickel catalyst, 43.

Kistyakovsky, Vladimir Aleksandrovich, obituary notice, 359.

Kurnakov compounds, properties, 707.

Lanthanides, and periodic system of the elements, 3.

Lignin, hydrolysis, chlorination of, 505.

Lithium aluminum hydride, preparation, application in micro syntheses with labeled carbon, 527.

Lithium, benzyl, see benzyllithium.

Lithium, 9-fluorenyl, see 9-fluorenyllithium.

Lithium, organo compounds, see organolithium compounds.

Lithium, phenylethynyl, see phenylethynyllithium.

Lithium chloride, preparation, analysis, solubility isotherms for system with $\text{RbCl-H}_2\text{O}$, 723.

Macromolecular compounds. Application of the interchain exchange reactions in linear polycondensation processes, 669.

Macromolecular compounds, chemical reactions of, copolymerization of methacrylic acid and alkyl vinyl ethers, 931.

Macromolecular compounds. Effect of stereochemical factors on the polymerizability of halogen-substituted ethylenes, 313.

Macromolecular compounds. Elementary reactions of the polyesterification process, 483.

Macromolecular compounds. Investigation of the polyester exchange reaction by the use of deuterium, 125.

Macromolecular compounds, nomenclature and classification, 293.

Macromolecular compounds. Polycondensation of acid esters of adipic acid with various glycols, 847.

Macromolecular compounds. Polycondensation of 1-bromo-3-chloropropane with benzene, 307.

Macromolecular compounds. Polyesters of 1,20-eicosanediol, 995.

Macromolecular compounds. The relation between the polymerization capacity and the structure of some unsymmetrical diarylethylenes, 487.

Macromolecular compounds. Role of stereochemical factors in the polymerization process, 991.

Macromolecular compounds. Steric hindrance in the polymerization of nuclear-substituted styrenes, 491.

Macromolecular compounds. Stereochemistry of α -methylstyrenes in its relation to their tendency to undergo polymerization, 675.

Magnesium chromate, as catalyst for oxidation of ethylene and propylene with heavy oxygen, 625.

- Mechanism of cyclization with the aid of deuterium, investigation of. Cyclization of 2-methyl-1,5-hexadien-3-one, 103.
- Mechanism of the iso synthesis, semicatalytic and dehydrational condensation in, 913.
- Medicinal chemistry. Alkaloid chemistry, its significance and its immediate problems, 351.
- Mendeleev, D.I., Prizes for 1952, award, 361.
- (1)-Menthyl esters of (bromomercuri)phenylacetic acid. preparation, properties, 583.
- 2-Mercaptoethanol, diethers, see diethers, 2-mercaptoethanol.
- Mercuric bromide, reaction with diastereoisomers of di-(-)-menthyl ester of mercuribis-phenylacetic acid, 753.
- Mercury, reaction with organic halogen compounds to form organomercury compounds, 589.
- Mercury, organo compounds, see organomercury compounds.
- Meso-halo derivatives of dioxo compounds, see dioxo compounds, meso-halo derivatives.
- Metals, decomposition of $(C_6H_5N_2Cl)_2 \cdot SbCl_3$ by, 273.
- Metal chlorides, comparative evaluation of action in polymerization processes, 319.
- Metallic compounds, classification, Kurnakov compounds, berthollides, daltonides, 707.
- Metallurgical chemistry. Metallic compounds, 707.
- Metallurgical chemistry. Solubility of the elements in chromium, 871.
- Metallurgical chemistry. Study of the "composition-heat strength" diagram for alloys of the quaternary system iron-chromium-nickel-manganese, 387.
- Methacrylic acid, properties. copolymerization with alkyl vinyl ethers, 931.
- Methane, formation from acetylene, 43.
- 2-Methoxy-1,3-butadiene, condensation with 2-methyl-2-cyclohexen-1-one, 69.
- Methoxy ketones, cyclization with phosphoric acids, HCl, 797.
- 3-Methylchrysene, formation, picrate, 80.
- Methylchrysenes, formation, 69.
- Methylcyclohexane, formation by catalytic isomerization of ethylcyclopentane, 251.
- 2-Methyl-2-cyclohexen-1-one, condensation with 2-methoxy-1,3-butadiene, 69.
- 2-Methylcyclopentanone, preparation, properties, 617.
- 2-Methyl-2-cyclopenten-1-one, condensation with 3,4,4a,7,8,8a-hexahydro-4a-methyl-5-vinyl-2(1H)-naphthalenone and 3,4,4a,5,6,8a-hexahydro-8a-methyl-8-vinyl-2(1H)-naphthalenone, 827.
- 2-Methyl-1,3-dioxolane, formation from ethyl vinyl ether and 1,2-divinyloxyethane, by reacting with ethylene glycol, 89.
- 2-Methyl-1,5-hexadien-3-one, mechanism of cyclization with the aid of deuterium, 103.
- α -Methylstyrenes, stereochemistry of, and tendency to undergo polymerization, 675.
- 3-Methyl-4-p-tolylbenzof[f]quinolinium iodide, preparation, properties, conversion to dyestuffs, 949.
- Microsyntheses with labeled carbon, application of lithium aluminum hydride, in, 527.
- Monodeuteriodimethylcyclopentenone, formation by cyclization of 2-methyl-1,5-hexadien-3-one with the aid of deuterium, 103.
- Monothioacetals, formation by reaction of thiols with vinyl ethers, 325.
- Naphthalene and 1,5-dichloro-compound, structure, 20.
- 2-Naphthalenepropionic acid, β -aminodecahydro, preparation and characterization of, 231.
- Naphthalenone, 3,4,4a,7,8,8a-hexahydro-4a-methyl-5-vinyl-2(1H)-, and 3,4,4a,5,6,8a-hexahydro-8a-methyl-8-vinyl-2(1H)-condensation with 2,4-dimethyl-2-cyclopenten-1-one, 799.
- Naphthalenones, 3,4,4a,7,8,8a-hexahydro-4a-methyl-5-vinyl-2(1H)-, and 3,4,4a,5,6,8a-hexahydro-8a-methyl-8-vinyl-2(1H)-, condensation with 2-cyclohexen-1-ones and with citraconic anhydride, 817.
- Naphthalenones, 3,4,4a,7,8,8a-hexahydro-4a-methyl-5-vinyl-2(1H)-, and 3,4,4a,5,6,8a-hexahydro-8a-methyl-8-vinyl-2(1H)-, condensation with 2-cyclopenten-1-one, 2-methyl-2-cyclopenten-1-one, and 3,5-dimethyl-3-cyclopenten-1,2-dione, 827.
- 2(1H)-Naphthalenone, 3,4,4a,7,8,8a-hexahydro-4a-methyl-5-vinyl- and 3,4,4a,5,6,8a-hexahydro-8a-methyl-8-vinyl-, preparation, condensation with alkali metal acetylides in liquid ammonia, 69.
- Nickel catalyst, see catalyst, nickel.
- Nitrogen atoms, relative basicities in compounds of the 2-aminopyridine and 1-alkyl-2(1H)-pyridonimine types, 129.
- Nomenclature of synthetic steroids and related substances, 651.
- Nomenclature and classification of low-molecular organo-silicon compounds, 439.
- Nomenclature and classification of macromolecular compounds, 293.
- Nomenclature and classification of macromolecular organosilicon compounds, principles of, 597.
- Obituary notice, Georgy Vladimirovich Akimov, 509.
- Obituary notice, Academician Ilya Vasilyevich Grebenshchikov, 521.
- Obituary. Academician Vladimir Aleksandrovich Kistyakovsky, 359.
- Obituary notice, Academician Nikolai Dmitrievich Zelinsky, 683.
- 1-Octene, reactions in contact with activated Troshkov clay, formation of aromatic hydrocarbons, isomeri-

- zation, cracking, properties, 607.
- Olefins, catalytic hydrocondensation with carbon monoxide, 631.
- Organic compounds, determination of structure and structural formulas of, from crystallographic data, 19.
- Organoantimony compounds, use of the salt $(C_6H_5Cl)_2 \cdot SbCl_3$ in the double-diazonium salt method for the synthesis of, 271.
- Organolithium compounds, crystalline. Benzyl lithium, 263.
- Organolithium, compounds, crystalline. 9-Fluorenyl-lithium, phenylethynyllithium, 357.
- Organolithium compounds, crystalline of the aromatic series, preparation, properties, apparatus, 113.
- Organomagnesium synthesis of dibutyl-1-naphthyl-phenylsilane, 1-naphthyltri-p-tolylsilane, tribenzyl-1-naphthylsilane, 639.
- Organomercury compounds, synthesis by reaction of organic halogen compounds with mercury, 589.
- Organomercury compounds, optically active. preparation of the diastereoisomeric (1)-menthyl esters of (bromomercuri)phenylacetic acid, 583.
- Organomercury compounds, optically active. preparation, mechanism of electrophilic substitution at a saturated carbon atom, 753.
- Organophosphorous compounds; O,O-dialkyl hydrogen phosphorothiolothionates, 109.
- Organosilicon acetals, preparation, properties, 837.
- Organosilicon compounds, low-molecular, basic nomenclature and classification, 439.
- Organosilicon compounds, macromolecular, principles of nomenclature and classification, 597.
- Organosilicon compounds, oxygen-containing, synthesis and reactions of. Synthesis of organosilicon acetals, 837.
- Organosilicon esters, see esters, organosilicon.
- Orthopropionic acid, ethyl esters, action of phosphorous trichloride on, 433.
- Orthosilicic acid, ethyl esters, action of phosphorous trichloride on, 433.
- Oxazole, 2-amino-5-benzoyl, see 2-amino-5-benzoyloxazole.
- Oxidation of cellulose with hydrogen peroxide, chemical changes produced by, 341.
- Oxidation, catalytic, of the simplest unsaturated hydrocarbons, with heavy oxygen, 625.
- Oxidation, cool-flame, of butane, effect of additions of diethyl peroxide and acetaldehyde on kinetics of, 559.
- Oxidizing agents, chemical changes produced in cellulose macromolecule by, 341.
- 2-Oxo-1-vinylhexamethylenimine, see vinylcaprolactam.
- Oxycelluloses, formation from cellulose by oxidation, 341.
- Oxygen, heavy, catalytic oxidation of the simplest unsaturated hydrocarbons with, 625.
- Packing effect and layered structure of atomic nucleus of the elements, classification of atomic nuclei on, 11.
- Palladium, as catalyst in hydrogenation of isoprene, 601.
- Paraformaldehyde, reactions with alkyl- and aryl-phosphonous dichlorides, 763.
- Pentane, conversion into liquid hydrocarbons and gas at 250-360 atmospheres and 400-500°, cracking, destructive alkylation, isomerization, cyclization, polymerization, 237.
- Perfluoropropene, addition of alcohols and thiols, 255.
- Perhydrobenzoquinoline series, preparation of alcohols, 655.
- Perhydro-1-pyridine series, preparation of alcohols, 655.
- Periodic system of the elements, and connection with the packing effect and the layered structure of the atomic nucleus, 11.
- Periodic system of the elements and its connection with the theory of numbers and with physicochemical analysis, 1.
- Periodicity in the structure of the electron envelopes and nuclei of atoms. Classification of the atomic nuclei of the elements on the basis of the packing effect and the layered structure of the atomic nucleus, 11.
- Periodicity in the structure of the electron envelopes and nuclei of atoms. Periodic system of the elements and its connection with the theory of numbers and with physicochemical analysis, 1.
- Peyrone's salt, see cis-dichlorodiammineplatinum.
- Phenanthrene, cyclopenta[a]-see cyclopenta[a]-phenanthrene.
- Phenylacetic acid, (bromomercuri), (1)-menthyl esters, preparation, properties, 583.
- Phenylethynyllithium, preparation, properties, 357.
- Phenyl vinyl ether, hydrogenation in presence of skeletal nickel catalyst, 989.
- Phosphinous chlorides, reaction with aldehydes, 763.
- Phosphonic acid, aminomethyl, see aminomethyl-phosphonic acid.
- Phosphonous chlorides, reaction with aldehydes, 763.
- Phosphorothiolothionates, O,O-dialkyl hydrogen, preparation, properties, oxidation, 109.
- Phosphorus trichloride, action on the ethyl esters of orthopropionic and orthosilicic acids, 433.
- Physicochemical analysis, connection with the periodic system, 1.
- 4-Piperidinols, 2,5-dimethyl-1-phenyl, see 2,5-dimethyl-1-phenyl-4-piperidinols.
- 4-Piperidone derivatives, preparation, properties, 447.
- Platinum, as catalyst in hydrogenation of isoprene, 601.
- Platinum, effect on adsorptive properties of active carbon and surface heterogeneity, 371.
- Platinum amines, preparation, reactions, 209.

- Platinum, complex compounds with diallylamine, preparation, reactions, structure, 209.
- Platinum complexes with acetamide, action of ethylenediamine and ammonia, 199.
- Platinum compounds, isomeric, chloroammines, thermochemical investigation of, apparatus, 193.
- Platinum diammines, reactions in solution of, in presence of ultraviolet radiation, absorption spectra, 205.
- Platinum, dinitrodiammine, see dinitrodiammine-platinum.
- Polyamides, preparation, 669.
- Polycondensation of acid esters of adipic acid with various glycols, 847.
- Polycondensation of 1-bromo-3-chloropropane with benzene, 307.
- Polycondensation of sebacic acid diglycol ester, 483.
- Polycondensation processes, linear, application of inter-chain exchange reactions, 669.
- Polyesters, preparation, 669.
- Polyesters of 1,20-eicosanediol, with oxalic, malonic, succinic, glutaric, adipic, pimelic, suberic, azelaic and sebacic acids, preparation, properties, 995.
- Polyester exchange reaction, investigation by the use of deuterium, 125.
- Polyesterification process, elementary reactions of, 483.
- Polyhexamethylene sebacate, exchange reaction with diethyl succinate-2,3-d₂, 125.
- Polymers of alkyl vinyl ethers, preparation, properties viscosity, molecular weight, solubility and elementary composition, 939.
- Polymerizability of halogen-substituted ethylenes, effect of stereochemical factors on, 313.
- Polymerization of dicyclopentadiene by the continuous method, 101.
- Polymerization of α -methylstyrenes, and stereochemistry of, 675.
- Polymerization of nuclear-substituted styrenes, steric hindrance in, 491.
- Polymerization, catalytic, of styrene in presence of ferric chloride and of stannic chloride, 319.
- Polymerization capacity and structure of some unsymmetrical diarylethylenes, relationship between, 487.
- Polymerization, ionic, of vinyl ethers, 939.
- Polymerization process, role of stereochemical factors in, 991.
- Polymerization processes, comparative action of metal chlorides in, 319.
- Polyphenylenepropyl, formation from polycondensation of 1-bromo-3-chloropropane with benzene, degradation, 309.
- Polyvinylcaprolactam, formation on reaction of vinylcaprolactam with water in presence of hydrogen peroxide, 97.
- Porosity, of silica gel, effect of compression on, 841.
- Potassium dibromodinitroplatinate, formation, properties, isomerism, 861.
- Pressure, applied in the compression of an alumina-molybdenum oxide catalyst, effect on activity and structure, 25.
- Propane, 1-bromo-3-chloro-, polycondensation with benzene, 307.
- 1,2- and 1,3-Propanediols, chloromethylation, 735.
- Propene, perfluoro-, see perfluoropropene.
- Propionic acid, 2-naphthalene-, see 2-naphthalenepropionic acid.
- Propylene, adsorption on activated carbon, 40.
- Propylene, catalytic oxidation with heavy oxygen, 625.
- Pseudomerism of dialkyl thiophosphites, 145.
- Pyridine derivatives, relation between the structure of, and their ability to form addition compounds with carbonic acid, 137.
- Pyridines, preparation, properties, picrates, 447.
- 2(1H)-pyridonimines, addition compounds with carbonic acid, preparation, properties, 137.
- 1-Pyridine, perhydro-, see perhydro-1-pyridine.
- Quaternary salts, of quinoline, preparation, conversion to cyanine dyes, 949.
- Quinine, catalytic effect of, in discharge of hydrogen ions in presence of amines, 715.
- Radium and its isotope ThX, distribution coefficients of, between melt and crystals of calcium nitrate, 227.
- Raman spectra of some sila-hydrocarbons, 267.
- Raman spectra of two silahydrocarbons, 159.
- Reactions in solutions of bivalent platinum diammines in presence of ultraviolet radiation, 205.
- Reactions of aldehydes with phosphonous and phosphinous chlorides, 763.
- Reactions of bis(chloromethyl)ethers of glycols with sodium alkoxides, 735.
- Reaction of the Grignard reagent from 3-chloro-2,4-dimethyl-1-pentene with 2,4-dimethyl-3-pentanone, ethyl formate and amyl butyrate, 907.
- Reactions of individual hydrocarbons in contact with activated Troshkov clay. Reactions of cyclohexene, 4-methylcyclohexene and 1-octene, 607.
- Reactions of vinyl ethers. Chemical properties of alkyl 2-chloroethyl acetals, 643.
- Reactions of vinyl ethers. Reactions of acetals derived from ethylene glycol, 89.
- Reactions of vitreous silicates and aluminosilicates with aqueous solutions, 535.
- Reaction mechanism of cyclization with the aid of deuterium, 467.
- Rubidium chloride, preparation, analysis, solubility isotherms for system with LiCl-H₂O, 723.

- Salts, 2-alkylnaphtho- and 2-alkyl-benzopyranyl, preparation from β -chlorovinyl ketones, 429.
- Sebacic acid diglycol ester, polycondensation of, 483.
- Semicarbazides, acyl, see acyl semicarbazides.
- Shorygin's reaction, use in the preparation of organolithium compounds, 357.
- Silanes, principles of nomenclature and classification of, 597.
- Silane, diallylmethyl, Raman spectrum, 159.
- Silanes, dibutyl-1-naphthylphenyl, 1-naphthyltrip-tolyl, tribenzyl-1-naphthyl, and benzyl-1-naphthylphenyl-p-tolyl, organomagnesium synthesis of, properties, 639.
- Silanes, methyl and ethyl substituted, preparation, properties, Raman spectra, 267.
- Silanes, tetraphenyl-, tetra-p-tolyl-, fluoro-tri-p-tolyl-, Grignard synthesis, properties, 761.
- Silanes, triethyl(2-methylpropenyl), Raman spectrum, 159.
- Silanol, trialkyl, reaction with alkyl vinyl ethers, 837.
- Silica, formation on reaction of vitreous sodium silicates with water and hydrochloric acid solutions, 535.
- Silica gel, effect of compression on the porosity, catalytic properties, and chromatographic activity, 841.
- Silica gel, isomerization of terpene hydrocarbons by the action of, under conditions of adsorptional analysis, 747.
- Silicates, determination of silicic acid in, by dehydrating solutions of the acid, 379.
- Silicic acid, formation by interaction of sodium silicates with water, 535.
- Silicic acid, a study of the conditions for the separation and gravimetric determination of. Methods of determining silicic acid in silicates by dehydrating solutions of the acid, 379.
- Silicic acid in solution, state of, and methods for its colorimetric determination, 545.
- Silicon, organo- compounds, see organosilicon compounds.
- Silicon hydrides, as basis of nomenclature and classification or low-molecular organosilicon compounds, 439.
- Sodium alkoxides, reaction with bis(chloromethyl) ethers of glycols, 735.
- Sodium carbonate, influence on colorimetric determination of silicic acid in solution, 545.
- Sodium fluoride, influence on colorimetric determination of silicic acid in solution, 545.
- Sodium hydroxide, influence on colorimetric determination of silicic acid in solution, 545.
- Sodium silicates, vitreous, preparation, reactions with water and with HCl solutions, 535.
- Solids, surface heterogeneity as shown by adsorptive properties, effect of secondary constituents on, 371.
- Solid perhydrol, see urea perhydrate.
- Solid solutions of elements in chromium, formation, 871.
- Solubility of the elements in chromium, 871.
- Solubility isotherms for the systems $\text{LiCl}-\text{RbCl}-\text{H}_2\text{O}$ and $\text{LiCl}-\text{CsCl}-\text{H}_2\text{O}$, 723.
- Solubility isotherms for the ternary system, $\text{CO}(\text{NH}_2)_2-\text{H}_2\text{O}_2-\text{H}_2\text{O}$, 51.
- Solutions, thermochemical investigations of; vapor pressure and composition of the binary system $\text{CH}_3\text{CHO} + \text{H}_2\text{O}$, 391.
- Sorption, chemi-, see chemisorption.
- Sorption, volumetric, apparatus for the measurement of, 565.
- Splitting of hydrogen chloride from $\alpha, \alpha, \alpha, \omega$ -tetrachloroalkanes and α, α, α -trichloroalkanes, 879.
- Stability of skeletal nickel catalyst at elevated temperature, 987.
- Stability, thermodynamic, see thermodynamic stability.
- Stannic chloride, catalytic polymerization of styrene in presence of, 319.
- Statistical treatment for the adsorption of gas mixtures, 33.
- Stereochemical factors, effect on the polymerizability of halogen-substituted ethylenes, 313.
- Stereochemical factors, role of, in the polymerization process, 991.
- Stereochemistry of α -methylstyrenes in its relation to their tendency to undergo polymerization, 675.
- Steric hindrance in the polymerization of nuclear-substituted styrenes, 491.
- Steroids, synthesis of polycyclic compounds related to. Synthesis of compounds related to estrone by the diene-condensation method, 977.
- Steroids, synthetic, and related substances, nomenclature, 651.
- Steroid compounds and related substances, synthesis. Condensation of 2-methyl-2-cyclohexen-1-one with 2-methoxy-1,3-butadiene. Synthesis of 3,4,4a,7,8,8a-hexahydro-4a-methyl-5-vinyl-2(1H)-naphthalenone and 3,4,4a,5,6,8a-hexahydro-8a-methyl-8-vinyl-2(1H)-naphthalenone, 69.
- Steroid compounds and related substances, preparation, properties; preparation of α, β -unsaturated cyclic ketones (2-cycloalken-1-ones), 787.
- Steroid compounds and related substances, synthesis, properties; condensation of 3,4,4a,7,8,8a-hexahydro-4a-methyl-5-vinyl-2(1H)-naphthalenone and 3,4,4a,5,6,8a-hexahydro-8a-methyl-8-vinyl-2(1H)-naphthalenone with 2,4-dimethyl-2-cyclopenten-1-one, 799.
- Steroid compounds and related substances, synthesis. Condensation of 3,4,4a,7,8,8a-hexahydro-4a-methyl-5-vinyl-2(1H)-naphthalenone and 3,4,4a,5,6,8a-hexahydro-8a-methyl-8-vinyl-2(1H)-naphthalenone, with 2-cyclohexen-1-ones and with citraconic anhydride, 817.
- Steroid compounds and related substances, synthesis. Condensation of 3,4,4a,7,8,8a-hexahydro-4a-methyl-

- 5-vinyl-2(1H)-naphthalenone and 3,4,4a,5,6,8a-hexahydro-8a-methyl-8-vinyl-2(1H)-naphthalenone with 2-cyclopenten-1-one and 2-methyl-2-cyclopenten-1-one and 3,5-dimethyl-3-cyclopentene-1,2-dione, 827.
- Steroid compounds and related substances, synthesis of. Condensation of 3,4,4a,5,8,8a-hexahydro-8a-methyl-1-vinylnaphthalene with α, β -unsaturated cyclic ketones. Synthesis of steroids derived from hydrogenated cyclopenta-[a] phenanthrene and chrysene, 955.
- Steroid compounds and related substances, synthesis of. Synthesis of sulfur analogs of steroids by diene condensation of cyclic γ -keto sulfones with bicyclic dienes, 969.
- Steroid diketones, preparation, properties, isomerization, Clemmensen reduction, 817.
- Steroid diketones, preparation, isomerization, Clemmensen reduction, 827.
- Steroid triketone, preparation, isomerization, 827.
- Structures of certain organic bases and their ability to form addition compounds with carbonic acid. Pyridine derivatives, 137.
- Structure of the complex ion $[\text{CO}(\text{NO}_2)_4(\text{NH}_2)_2]$, 215.
- Structure, of dialkyl thiophosphites, 145.
- Structure and polymerization capacity of some unsymmetrical diarylethylenes, relationship between, 487.
- Structure and structural formulas of organic compounds determination from crystallographic data, 19.
- Structure, layered, of the atomic nucleus, and packing effect, classification of the atomic nuclei of the elements on, 11.
- Styrene, catalytic polymerization in presence of ferric chloride and stannic chloride, 319.
- Styrene, formation by catalytic dehydrogenation of ethylcyclohexane, 895.
- Styrenes, methyl-, see methylstyrenes.
- Styrenes, nuclear-substituted, steric hindrance in the polymerization of, 491.
- Styrene, theoretical and experimental yields, in the catalytic dehydrogenation of ethylbenzene, 365.
- Substitution, electrophilic, at a saturated carbon atom, mechanism of, in optically active organomercury compounds, 753.
- Sulfides, organic, formation by reaction of thiols with vinyl ethers, 325.
- Sulfones, γ -keto, diene condensation with bicyclic dienes to form sulfur analogs of steroid ketones, 969.
- Sulfur analogs of steroids, synthesis by diene condensation of cyclic γ -keto sulfones with bicyclic dienes, 969.
- Sulfur compounds, synthesis with the aid of vinyl ethers and acetylene. Reactions of thiols with vinyl ethers, 325.
- Sulfuric acid, heavy, and saturated hydrocarbons, hydrogen exchange between, 921.
- Surface, of solid catalysts, during operation, electron microscopic investigation of changes in, 397.
- Surface heterogeneity of solid bodies, as shown by their adsorptive properties, effect of secondary constituents on, 371.
- Synol process, influence of reaction temperature, 919.
- System, $\text{CH}_3\text{CHO}-\text{H}_2\text{O}$, vapor pressure and composition, 391.
- Systems containing concentrated hydrogen peroxide. Solubility isotherms for the ternary system $\text{CO}(\text{NH}_2)_2-\text{H}_2\text{O}_2-\text{H}_2\text{O}$, 51.
- System, $\text{LiCl}-\text{CsCl}-\text{H}_2\text{O}$, heterogeneous equilibria, in, 723.
- System, $\text{LiCl}-\text{RbCl}-\text{H}_2\text{O}$, heterogeneous equilibria, in, 723.
- System, quaternary, iron-chromium-nickel-manganese, composition-heat strength diagram for, 387.
- System, radium, and isotope ThX -calcium nitrate melt and crystals, distribution coefficients of, 227.
- Tautomeric equilibrium, theory of, 145.
- Terpene hydrocarbons, isomerization of, by the action of silicagel under the conditions of adsorption analysis, 747.
- Tetrachloroalkanes, see alkanes, tetrachloro-
- Tetrahydro- γ -thiopyrones, preparation, properties, derivatives, 455.
- Tetraphenylsilane, see silane, tetraphenyl-
- Tetra-p-tolylsilane, see silane, tetra-p-tolyl-
- Textile chemistry. Recent developments in the physicochemical investigation of cotton fiber, 411.
- Theory of chemisorption, electronic processes in, 865, 701.
- Theory of numbers, connection with the periodic system, 1.
- Theory of tautomeric equilibrium. The question of pseudomerism. Structure and properties of dialkyl thiophosphites, 145.
- Thermochemical investigation of isomeric platinum compounds, 193.
- Thermochemical investigations of solutions. Vapor pressure and composition of the binary system $\text{CH}_3\text{CHO} + \text{H}_2\text{O}$, 391.
- Thermodynamic equilibrium of the dehydrogenation of ethylbenzene under the conditions of its formation from ethylcyclohexane, 903.
- Thermodynamic stability of various structures in binary inorganic crystals, 695.
- Thiols, addition to perfluoropropenes, 255.
- Thiols, reactions with vinyl ethers, 325.
- Thionates, phosphorothio-, see phosphorothio-thionates.
- Thiophosphites, dialkyl, see dialkyl thiophosphites.
- γ -Thiopyrones, tetrahydro-, see tetrahydro- γ -thiopyrones.
- Thoria, as catalyst in the synthesis of hydrocarbons

from carbon monoxide and hydrogen, 913.

Transformations of vinyl ethers. Synthesis of halo acetals from vinyl ethers, 927.

Trialkylsilanols, see silanols, trialkyl-,

Triamines, $[\text{EnAmPtClBrNO}_2]_X$ geometric and enantiomorphic isomerism of, 183.

Trichloroalkanes, see alkanes, trichloro.

Triethyl (2-methylpropenyl) silane, see silane, triethyl (2-methylpropenyl).

Triketone, of steroid, preparation, isomerization, 827.

Tropolone, structure of, 22.

Ultraviolet radiation, reactions of solutions of bivalent platinum diammines in presence of, absorption spectra, 205.

Ultraviolet radiation, use in activation of reaction of halogen derivatives with mercury, 589.

Urea, condensation with meso-halo derivatives of 1,3-dioxo compounds, 887.

Urea, system with hydrogen peroxide and water, solubility isotherms for, 51.

Urea perhydrate, formation in the system $\text{CO}(\text{NH}_2)_2 - \text{H}_2\text{O}_2 - \text{H}_2\text{O}$, 51.

Vanadium oxides, as catalysts for oxidation of ethylene and propylene with heavy oxygen, 625.

Vapor phase catalytic isomerization of ethylcyclopentane, 251.

Vapor pressure and composition of the binary system $\text{CH}_3\text{CHO} + \text{H}_2\text{O}$, 391.

Vinylation, indirect of monocarboxylic and hydroxy acids, 499.

Vinylcaprolactam, activation in presence of hydrogen peroxide, hydrolysis, polymerization, 97.

Vinylcaprolactam, poly, see polyvinylcaprolactam.

Vinyl esters, of monocarboxylic and hydroxy acids, preparation, properties, 499.

Vinyl ethers, reactions of, 89.

Vinyl ethers, reactions of. Chemical properties of alkyl 2-chloroethyl acetals, 643.

Vinyl ethers, synthesis of sulfur compounds by the aid of, reactions with thiols, 325.

Vinyl ethers, transformations of; synthesis of halo acetals, 927.

Vinyl ethers, alkyl ($\text{C}_4 - \text{C}_{10}$), copolymerization of, 647.

Vinyl ethers of ethanolamines, synthesis and reactions of, nature of the double bond, 335.

1-Vinylnaphthalene, 3,4,4a,5,8,8a-hexahydro-8a-methyl, condensation with α, β -unsaturated cyclic ketones to form steroids, 955.

Washing processes, effect on separation of silicic acid from solutions, 379.

Water, reaction with vitreous sodium silicates, 535.

Water and ethyl chloride vapors, adsorption on active charcoal, 851.

Zelinsky, Nikolai Dmitrievich, obituary notice, 683.

Zinc oxide, as carrier for nickel catalysts in hydrogenating and dehydrogenating reactions, 85.

Zirconium chloride, as catalyst in polycondensation of 1-bromo-3-chloropropane with benzene, 307.

Group C₁

1. I

CH₄. Methane, formation from acetylene, 43; formation in thermocatalytic conversion of pentane, 237; formation from 1-octene, 613; formation from carbon monoxide and hydrogen, 914.

1. II

CHBr₃. Bromoform, reaction with mercury in presence of benzoyl peroxide, 595.

CHCl₃. Chloroform, decomposition of (C₆H₅N₂Cl)₂ · SbCl₃ in, 272; reaction with mercury, 593.

CH₂O. Paraformaldehyde, reaction with alkyl- and aryl-phosphonous dichlorides, 763; reaction with PCl₃, 769.

CH₂O₃. Carbonic acid, addition compounds with pyridine, preparation, properties, 137.

CH₃I. Methyl iodide, labeled, preparation, 530.

CH₄O. Methanol, adsorption isotherms for vapor on silica gel, 842; decomposition of (C₆H₅N₂Cl)₂ · SbCl₃ in, 272; formation in the iso synthesis of hydrocarbons, 919; labeled, preparation, 528.

1. III.

CH₄ON₂. Urea, condensation with meso-halo derivatives of 1,3-dioxo compounds, 887; system with hydrogen peroxide and water, solubility isotherms for, 51.

CN₂H₄S. Thiourea, reaction with dichloro(diallylamine) platinum, 210.

CH₃N₂O₃. Urea perhydrate, formation in system CO(NH₂)₂ · H₂O₂ · H₂O, 51.

CH₃N₂O₂ · BrPtCl₂. Methylamine triamine, isomers of, preparation, properties, rotation, hydrogen tartrates, 183.

1. IV

CH₃O₃PN. Aminomethylphosphonic acid, formation, 769; acetylation, reaction with chloroacetyl chloride, phthalic anhydride, methylation, 999.

 Group C₂

2. I

C₂H₂. Acetylene, kinetics of hydrogenation and activated adsorption at a nickel catalyst, 43; splitting off from 5-ethynyloctahydro-5-hydroxy-4a-methyl-2(1H)-naphthalenone, 78; reactions with aromatic compounds, 479; reaction with Cellosolve, 644; reaction with octahydro-1,2-dimethyl-4(1H)-quinolone, 659; condensation with cis-3,4,4a,5,8a-hexahydro-8a-methyl-1(2H)-naphthalenone, 961.

C₂H₄. Ethylene, adsorption on activated carbon, 40; formation from 1-octene, 613; catalytic oxidation with heavy oxygen, 626; hydrocondensation with carbon monoxide, 917.

C₂H₆. Ethane, formation in thermocatalytic conversion of pentane, 237; formation from 1-octene, 613; formation from carbon monoxide and hydrogen, 914.

2. II

C₂HBr₅. Pentabromoethane, formation on reaction of bromoform with mercury, 595.

C₂H₂Br₂. 1,1-Dibromoethylene, preparation, influence of stereochemical factors on polymerization, 313.

C₂H₃Br₃. 1,1,2-Tribromoethane, preparation, conversion to 1,1-dibromoethylene, 315.

C₂H₃Cl₃. 1,1,1-Trichloroethane, preparation, conversion to poly-1,1-diiodoethylene (polyvinylidene iodide), 316.

C₂H₄O. 1) Acetaldehyde, formation in reaction of vinylcaprolactam with water in presence of hydrogen peroxide, 97; vapor pressure and composition of system with water, 391; labeled, preparation, radioactivity, and of products of degradation, 531; preparation, effect on kinetics of cool-flame oxidation of butane, 559; preparation and properties of ethoxyethyl acetals of, 643; formation on hydrolysis of acetals, 928;

2) Ethylene oxide, reaction with 2-aminopyridine, 133; reaction with diethylamine to form 2-(diethylamino)ethanol, 336.

C₂H₄O₂. Methyl formate, decomposition of (C₆H₅N₂Cl)₂ · SbCl₃ in, 272.

C₂H₅Cl. Ethyl chloride vapor, and water vapor, adsorption on active charcoal, 851.

C₂H₅Li. Ethyllithium, reaction with (C₆H₅CH₂)₃Sb to form benzyllithium, 263; reaction with fluorene, phenylacetylene, 357.

C₂H₅O. 1) Ethanol, decomposition of (C₆H₅N₂Cl)₂ · SbCl₃ in, 272; labeled, preparation, oxidation, radioactivity, 531; formation in the iso synthesis, 919.

2) Dimethyl ether, formation from carbon monoxide and hydrogen, 914.

C₂H₆S. Ethanethiol, reaction with ethyl vinyl ether, butyl vinyl ether, 327.

C₂H₆O₂. Ethylene glycol, reaction with 2-vinyloxyethanol, acetaldehyde ethyl 2-hydroxyethyl acetal, ethyl vinyl ether, 1,2-divinyloxyethane, 89; reaction with diethyl and dibutyl adipates, 671; preparation of bis(chloromethyl) ether, 735; condensation with adipic acid, 849.

C_2H_7N . Dimethylamine, reaction with methoxy ketone to form amino ketone, 289; reaction with 4-chloro-3-penten-2-one, 1-chloro-1-hexen-3-one, 1-chloro-5-methyl-1-hexen-3-one, 884.

$C_2H_8N_2$. Ethylene diamine, action on complex compounds of platinum and acetamide, 199.

2. III

$C_2H_5OCl_2$. Chloroacetyl chloride, reaction with amino-methylphosphonic acid, 1000.

C_2H_5OCl . Acetyl chloride, reaction with ethyl (bromo-mercuri)phenylacetate, 594.

C_2H_4OS . Thioacetic acid, reaction with butyl vinyl ether, 333.

C_2H_5OCl . 2-Chloroethanol, properties, reaction with alkyl vinyl ethers, 927.

C_2H_5ON . Acetamide, complex compounds with platinum, action of ethylenediamine and ammonia on, 199.

$C_2H_7PO_3$. Ethylphosphonic acid, preparation, 154.

2. IV

C_2H_5SHgCl . Ethylthiomercury chloride, preparation, 328.

$C_2H_5OPCl_2$. Reaction product of ethyl orthopropionate and phosphorus trichloride, formation, properties, analysis, 436.

$C_2H_7O_2PS_2$. O,O-Dimethyl hydrogen phosphorothiothionate, preparation, properties, reaction with nickel chloride, titration, oxidation with iodine, 110.

2. V

$C_2H_5O_2PSNa$. Sodium ethyl thiophosphite (phosphonothionate), preparation, 153.

Group C_3

3. I

C_3H_6 . 1) Propene, formation from 1-octene, 613.

2) Propylene, adsorption on activated carbon, 40; formation in thermocatalytic conversion of pentane, 237; catalytic oxidation with heavy oxygen, 626.

C_3H_8 . 1) Pentane, formation from carbon monoxide and hydrogen, 914.

2) Propane, formation in thermocatalytic conversion of pentane, 237; formation from 1-octene, 613.

3. II

$C_3H_4Cl_2$. 1,1-Dichloropropene, preparation, properties, 880.

C_3H_5Br . Allyl bromide, reaction with mercury, 589.

C_3H_5Cl . Allyl chloride, reaction with mercury, 592.

C_3H_6O . 1) Acetone, decomposition of $(C_3H_5N_2Cl)_2 \cdot SbCl_3$ in, 272; condensation with 3-camphenilane-carboxaldehyde, 727.

2) Methyl vinyl ether, properties, ionic polymerization of, 940; properties, reaction with 2-

chloroethanol, 927.

$C_3H_5O_2$. Ethyl formate, reaction with the Grignard reagent from 3-chloro-2,4-dimethyl-1-pentene, 911.

C_3H_7I . Propyl iodide, reaction with Mg, 1003.

C_3H_8O . Propyl alcohol, formation from hydrocondensation of carbon monoxide and ethylene, 917.

$C_3H_8O_2$. 1,2- and 1,3-Propanediol, preparation of bis(chloromethyl) ethers, action of sodium alkoxides, 735.

$C_3H_8O_3$. Glycerol, use in the preparation of hydrated calcium silicates, 58.

$C_3H_{10}Si$. Trimethylsilane, preparation, properties, Raman spectra, 267.

3. III

$C_3H_4O_2N_2$. Hydantoin, preparation, 892.

C_3H_5OBr . 2-Bromopropionaldehyde, reaction with mercury, 592.

C_3H_5HgBr . Allylmercury bromide, preparation, properties, 591.

$C_3H_5O_3Ca$. Calcium glycerate, formation in the preparation of hydrated calcium silicates, 59.

C_3H_6ClBr . 1-Bromo-3-chloropropane, polycondensation with benzene, 307.

C_3H_7MgI . Propylmagnesium iodide, preparation, reaction with radioactive CO_2 , 1003.

3. IV

$C_3H_7NO_4Cl$. (Chloroacetamido)methylphosphonic acid, preparation, product with aniline, 1000.

$C_3H_7OPCl_2$. (Chloromethyl)ethylphosphinic chloride, preparation, properties, action of ethyl alcohol, 766.

$C_3H_8NPO_4$. Acetamidomethylphosphonic acid, preparation, 1000.

Group C_4

4. I

C_4H_6 . 1,3-Butadiene, condensation with 2-methyl-2-cyclohexen-1-one, 961.

C_4H_8 . 1) 1-Butene-4- C^{14} , synthesis, apparatus, 1003.

2) n-Butene, isobutene, formation from 1-octene, 613.

3) Butylene, n- and iso-, formation in thermocatalytic conversion of pentane, 237.

C_4H_{10} . 1) Butane, preparation, properties, effect of diethyl peroxide and acetaldehyde on kinetics of cool-flame oxidation of, 559; isobutane, formation from carbon monoxide and hydrogen, 914; formation from 1-octene, 613; formation in thermocatalytic conversion of pentane, 237;

2) Butane-1- C^{14} , synthesis, apparatus, 1003,

3) Isobutane, frequencies of C-H valency vibrations, 269.

4. II

- $C_4H_2O_3$. Maleic anhydride, condensation with dienes, 69.
- C_4H_6O . Divinyl ether, formation from "Chlorex" 643.
- $C_4H_8O_2$. Methacrylic acid, properties, copolymerization with alkyl vinyl ethers, 931.
- $C_4H_8O_3$. Acetic anhydride, reaction with amides of benzoated acids, 232; reaction with aminomethylphosphonic acid, 1000.
- $C_4H_8O_4$. Succinic acid, formation, 795.
- C_4H_8O . 1) 2-Butanone, condensation with 3-camphenylancarboxaldehyde, 730; properties, reductive amination, 81.
- 2) Copolymerization product of ethyl vinyl and hexyl vinyl ethers, formation, properties, solubility, 647.
- 3) Ethyl vinyl ether, copolymerization with hexyl vinyl ether, 647; preparation, properties, copolymerization with methacrylic acid, 934; properties, reaction with acetylenic alcohols to form acetals, 945; reaction with ethanethiol, 1-ethoxyethanethiol, 327; reaction with ethylene glycol, 91; diethylene glycol, 94.
- $C_4H_8O_2$. 1) Ethyl acetate, labeled, preparation, apparatus, reduction, 532; condensation with 3-camphenylancarboxaldehyde, 727.
- 2) Isobutyric acid, formation, 908.
- 3) 2-Methyl-1,3-dioxolane, preparation, properties, 89.
- 4) 2-Vinyloxyethanol, reaction with ethylene glycol, 91; diethylene glycol, 93.
- $C_4H_8Cl_2$. 1,4-Dichlorobutane, condensation with benzene to 1,2,3,4-tetrahydronaphthalene, 307.
- C_4H_9Li . Butyllithium, reaction with benzyl chloride, 263.
- $C_4H_{10}O$. 1) Isobutyl alcohol, formation from carbon monoxide and hydrogen, 918.
- 2) Butanol, reaction with the vinyl ether of 2-(diethylamino)ethanol, 337.
- $C_4H_{10}O_2$. 1) 1,3-Butanediol, preparation of bis(chloromethyl)ether, action of sodium alkoxides, 735.
- 2) Cellosolve, reaction with acetaldehyde acetylene, 644.
- 3) Diethyl peroxide, preparation, effect on kinetics of cool-flame oxidation of butane, 559.
- $C_4H_{10}O_3$. Diethylene glycol, reaction with 2-vinyloxyethanol, ethyl vinyl ether, 93.
- $C_4H_{11}N$. 1) Diethylamine, reaction with 4-chloro-3-buten-2-one, 885; reaction with ethylene oxide to 2-(diethylamino)ethanol, 336; reaction with 2-methyl-1,5-hexadien-3-one, 5-methoxy-2-methyl-1-hexen-3-one, 1,5-hexadien-3-one, methoxy ketones, 290.
- 2) 1-Methylpropylamine, reductive amination

product of 2-butanone, formation, properties, 83.

$C_4H_{12}Si$. Tetramethylsilane, preparation, properties, Raman spectra, 267.

4. III

- $C_4H_4OF_6$. 2H-Hexafluoropropyl methyl ether, preparation, properties, 255.
- $C_4H_4SF_6$. 2H-Hexafluoropropyl methyl sulfide, preparation, properties, 255.
- $C_4H_4O_2F_4$. Methyl 2H-tetrafluoropropionate, preparation, properties, 259.
- C_4H_5OCl . Methyl- β -chlorovinyl ketone, reaction with β -naphthol, 430.
- $C_4H_5O_2Hg$. Mercuric acetate, reaction with menthyl and bornyl esters of cinnamic acid, 583.
- $C_4H_7O_2Br$. Ethyl bromoacetate, reaction with mercury, 592.
- $C_4H_7O_2I$. Ethyl iodoacetate, reaction with mercury, 594.
- $C_4H_8OCl_2$. 1) Bis(2-chloroethyl)ether, preparation, 527.
- 2) "Chlorex", conversion to divinyl ether, 643.
- $C_4H_8O_2Br_2$. Dioxan dibromide, reaction with 2-methylcyclohexanone, 793.
- $C_4H_{10}OS$. 1-Ethoxyethanethiol, reaction with ethyl vinyl ether, 331.
- $C_4H_{11}O_3P$. Diethyl hydrogen phosphite, reaction with aldehydes and ammonia, 770.

4. IV

- $C_4H_5OF_5Br_2$. 2,3-Dibromopentafluoropropyl methyl ether, preparation, properties, 255.
- $C_4H_7O_2HgI$. Ethyl iodomercuriacetate, preparation, properties, 594.
- $C_4H_{10}O_2PCL$. Chloranhydride of diethylphosphorous acid, preparation, properties, 435.
- $C_4H_{10}O_2SiCl_2$. Diethoxydichlorosilane, preparation, properties, 436.
- $C_4H_{11}O_2PS$. Diethyl phosphite, reaction with sulfur, 153.
- $C_4H_{11}O_2PS_2$. O,O-Diethyl hydrogen phosphorothiolothionate, preparation, properties, lead salt, titration, oxidation with iodine, 110.
- $C_4H_{12}NPO_3$. Phosphonobetaine, preparation, reaction, with HI, 1001.
- $C_4H_{12}O_4P_2S_4$. Disulfide obtained from O,O-dimethyl hydrogen phosphorothiolothionate, 111.

4. V

- $C_4H_{10}O_2PSCl$. Diethyl phosphorochloridethionate, preparation, properties, 153.
- $C_4H_{10}O_2PSNa$. 1) Sodium butyl thiophosphite (phosphothionate), preparation, 153.
- 2) Sodium O,O-diethyl phosphorothite, preparation, reaction with sulfur ethyl iodide, ethyl chloride, benzyl chloride, 154.
- $C_4H_{12}O_4P_2S_4Ni$. Nickel bis(O,O-dimethyl phosphoro-

thiolothionate, preparation, 110.

Group C₅

5. I

C₅H₈. Cyclopentadiene, preparation by depolymerization of dicyclopentadiene, 101.

C₅H₈. Isoprene, properties, hydrogenation in presence of platinum, palladium and nickel, 601.

C₅H₁₀. 1) Cyclopentane, formation from carbon monoxide and hydrogen, 914; properties, catalytic reactions under a pressure of hydrogen at high temperature, hydrogenolysis, hydrogenosynthesis, 243.

2) 2-Methyl-2-butene, formation by hydrogenation of isoprene, 603.

3) 2-, and 3-methyl-1-butene, formation by hydrogenation of isoprene, 603.

C₅H₁₂. 1) 2-Methylbutane, formation from cyclopentane, 243; formation from hexane, heptane, 780.

2) Pentane, conversion into liquid hydrocarbons and gas at 250-360 atmospheres and 400-500°, cracking, destructive alkylation, isomerization, cyclization, polymerization, 237; formation from heptane, 781; formation from hexane, 780; n-, and iso-, formation from cyclopentane, 243.

3) Isopentane, formation by hydrogenation of isoprene, 603.

4) Tetramethylmethane, frequencies of C-H valency vibrations, 269.

5. II

C₅H₆O. 2-Cyclopenten-1-one, preparation, properties, ozonization, 796; condensation with 3,4,4a,7,8,8a-hexahydro-4a-methyl-5-vinyl-2(1H)-naphthalenone, and 3,4,4a,5,6,8a-hexahydro-8a-methyl-8-vinyl-2(1H)-naphthalenone, 827.

C₅H₆O₃. Citraconic anhydride, condensation with 3,4,4a,7,8,8a-hexahydro-4a-methyl-5-vinyl-2(1H)-naphthalenone and 3,4,4a,5,6,8a-hexahydro-8a-methyl-8-vinyl-2(1H)-naphthalenone, 817.

C₅H₅N. Pyridine, reaction with dichloro (diallylamine) platinum, 210.

C₅H₆O. 2-Cyclopenten-1-one, condensation with 1,2-dihydro-7-methoxy-4-vinylnaphthalene, 978.

C₅H₅N₂. 2-Aminopyridine, relative basicity of nitrogen atoms, absorption spectrum, 129; reaction with ethylene oxide, 133.

C₅H₇Cl₃. 1,1,5-Trichloropentene, formation, properties, 879.

C₅H₈O. 1) Cyclopentanone, properties, reductive amination, 81.

2) 2-Methoxy-1,3-butadiene, preparation, condensation with 2-methyl-2-cyclohexen-1-one, 74.

C₅H₈Cl₂. 1,1-Dichloropentene, preparation, properties, 880.

C₅H₈Cl₄. 1,1,1,5-Tetrachloropentane, removal of HCl from, 879.

C₅H₈O₃. Vinyl lactate, preparation, hydrolysis, properties, 499.

C₅H₈O₄. Glutaric acid, formation, 793.

C₅H₉Cl₃. Trichloropentane, splitting off HCl, 380.

C₅H₁₀O. 1) Propyl vinyl ether, properties, ionic polymerization of, 940.

2) n- and iso-Propyl vinyl ether, properties, reaction with 2-chloroethanol, 927.

3) Isopropyl vinyl ether, properties, ionic polymerization of, 940; properties, reaction with acetylenic alcohols to form acetals, 946.

4) 3-Pentanone, properties, reductive amination of, 81.

C₅H₁₁N. Piperidine, reaction with methoxy ketone to form amino ketone, 290; reaction with 4-chloro-3-buten-2-one, 885.

C₅H₁₃N. 1-Ethylpropylamine, reductive amination product of 3-pentanone, 82.

C₅H₁₄Si. Ethyltrimethylsilane, preparation, properties, Raman spectra, 267.

5. III

C₅H₅OF₃. Ethyl 2H-hexafluoropropyl ether, preparation, properties, 255.

C₅H₅SF₃. Ethyl 2H-hexafluoropropyl sulfide, preparation, properties, 255.

C₅H₅O₂F₄. Ethyl 2H-tetrafluoropropionate, preparation, properties, 259.

C₅H₅O₂Br. Ethyl 2-bromopropionate, reaction with mercury, 592.

C₅H₁₀O₂Cl₂. 1) Bis(chloromethyl) ether of 1,2-propanediol, preparation, properties, reaction with sodium alkoxides, 738.

2) Bis(chloromethyl) ether of 1,3-propanediol, preparation, properties, reaction with sodium alkoxides, 739.

C₅H₁₁O₂Cl. 2-Chloroethyl methyl acetal, preparation, properties, hydrolysis, 928.

5. IV

C₅H₅OSF₃. 2H-Hexafluoropropyl-2-hydroxyethyl sulfide, preparation, properties, 255.

C₅H₁₂O₂PCl. Ethyl(chloromethyl)ethylphosphinate, preparation, properties, 766.

C₅H₁₂O₃PCl. Ester of chloromethylphosphonic acid, formation, 769.

Group C₆

6. I

C₆H₆. Benzene, hydrogenation and dehydrogenation with nickel catalysts, influence of carrier, 85; formation from cyclopentane and methylcyclopentane, 243; decomposition of (C₆H₅N₂Cl)₂ · SbCl₃ in, 272; polycondensation with 1-bromo-3-chloropropane, 307; reaction with acetylene, 479;

- formation on catalytic hydrogenation of isoprene, 603; formation from 1-octene, 614; formation on catalytic hydrocondensation of cyclohexene, 635; formation from hexane, 780, heptane, 781, octane, 784.
- C_6H_8 . Methylcyclopentadiene, preparation, properties, 619.
- C_6H_{10} . 1) Cyclohexene, reactions in contact with activated Troshkov clay, properties, formation of aromatic hydrocarbons, isomerization, cracking, 607; preparation, properties, hydrocondensation catalysis, 631.
- 2) 1-Methylcyclopentene, preparation, properties, oxidation, 618.
- C_6H_{12} . 1) Cyclohexane, activity of compressed catalysts on the dehydrogenation of, 28; hydrogenation and dehydrogenation with nickel catalysts. Influence of carrier, 85; properties, catalytic reactions under a pressure of hydrogen at high temperature, 243; formation on catalytic hydrocondensation of cyclohexene, 635; formation from carbon monoxide and hydrogen, 914.
- 2) Methylcyclopentane, formation from cyclopentane and cyclohexane; properties, catalytic reactions under a pressure of hydrogen at high temperature, 243; formation from carbon monoxide and hydrogen, 914.
- C_6H_{14} . 1) Hexane, and isomers, formation from cyclopentane, and cyclohexane, 243; preparation, properties, high-temperature contact-catalysis reactions in presence of hydrogen at high pressure, 779; formation from octane, 784.
- 2) 2-Methylpentane, formation from octane, 784; formation from carbon monoxide and hydrogen, 914.
- 3) 3-Methylpentane, formation from carbon monoxide and hydrogen, 914; preparation, properties, hydrogen exchange with heavy sulfuric acid, 924.
- 4) 2,3- and 2,2-Dimethylbutanes, formation from hexane, 780.
- 5) 2,2-Dimethylbutane, frequencies of valency vibrations, 269.
- 6) 2- and 3-Methylpentanes, formation from hexane, 780.

6, II

- $C_6H_4O_2$. p-Benzoquinone, condensation with 3,4,4a,7,8,8a-hexahydro-4a-methyl-5-vinyl-2(1H)-naphthalenone, 1,2,3,4,4a,7,8,8a-octahydro-4a-methyl-5-vinyl-2-naphthol, 823, 824; condensation with 3,4,4a,5,8,8a-hexahydro-8a-methyl-1-vinyl-naphthalene, 967.
- C_6H_5O . 2-Cyclohexenone, condensation with 3,4,4a,7,8,8a-hexahydro-4a-methyl-5-vinyl-2(1H)-naphthalenone and 3,4,4a,5,6,8a-hexahydro-8a-methyl-8-vinylnaphthalenone, 817.

- C_6H_5Cl . Chlorobenzene, hydrolysis to phenol in presence of silica gel, 842.
- C_6H_5I . Iodobenzene, reaction with mercury, 595.
- C_6H_5Li . Phenyllithium, preparation, 113, 117.
- C_6H_5O . Phenol, reaction with methyl- β -chlorovinylketone, 431; from chlorobenzene, in presence of silica gel, 843.
- $C_6H_5O_2$. Resorcinol, reaction with acetoacetic ester, 675.
- $C_6H_5O_4$. Terephthalic acid, formation from cyclopentane, 244.
- C_6H_7N . Aniline, reaction with ethynyldimethylvinylmethanol, 275; product with (chloroacetamidemethylphosphonic acid, formation, 1000.
- C_6H_8O . 1) 1,5-Hexadien-3-one, reaction with diethylamine, dibutylamine, to form amino ketones, 290.
- 2) 2-Methyl-2-cyclopenten-1-one, preparation, properties, semicarbazone, oxime, ozonization, 795; condensation with dienones, 827.
- 3) 2-Cyclohexen-1-one, preparation, properties, 796; condensation with 3,4,4a,7,8,8a-hexahydro-4a-methyl-5-vinyl-2(1H)- and 3,4,4a,5,6,8a-hexahydro-8a-methyl-8-vinyl-2(1H)-naphthalenones, 817; condensation with 1,2-dihydro-7-methoxy-4-vinylnaphthalene, 980.
- $C_6H_8N_2$. 1) 1-Methyl-2(1H)-pyridonimine, relative basicity of nitrogen atoms, absorption spectrum, 129.
- 2) 2-Methylaminopyridine, relative basicity of nitrogen atoms, absorption spectrum, preparation, 129.
- $C_6H_8O_3$. Ethyl acetoacetate, condensation with 3-camphenilancarboxaldehyde, 727.
- $C_6H_{10}O$. 1) Mesityl oxide, condensation with 3-camphenilancarboxaldehyde, 731.
- 2) Methylcyclopentanone, formation, 793.
- 3) 2-Methylcyclopentanone, preparation, properties, 2,4-dinitrophenylhydrazone, 619.
- $C_6H_{10}O_2$. 1) Vinyl butyrate, preparation, properties, 499.
- 2) Acetoacetic ester, reaction with resorcinol, 675.
- $C_6H_{10}O_3$. Vinyl β -hydroxybutyrate, preparation, properties, hydrolysis, 499.
- $C_6H_{10}O_4$. 1) Adipic acid, condensation with ethylene glycol, 1,20-eicosanediol, 849; reaction with N,N'-hexamethylenebisacetamide, 672.
- 2) Diethyl oxalate, condensation with 3a-, 4,7,7a-tetrahydro-3,7a-dimethyl-1-indanone, 835.
- $C_6H_{10}O_6$. Glucosone, oxidation, 342.
- $C_6H_{10}O_7$. 2-Ketogluconic acid, formation from glucosone, 342.
- $C_6H_{11}N$. Diallylamine, complex compounds of platinum with, preparation, reactions, structure, 209.

$C_8H_{12}O$. 1) Butyl vinyl ether, reaction with ethanethiol, 2-butoxyethylethanethiolthioacetic acid, 328; use in vinylation of monocarboxylic and hydroxy acids, 499; reaction with triethylsilanol, 838; preparation, properties, copolymerization with methacrylic acid, 934; reactions with acetylenic alcohols to form acetals, 947.

2) Isobutyl vinyl ether, properties, reaction with 2-chloroethanol, 927; reaction with acetylenic alcohols to form acetals, 947; reaction with triethylsilanol, 838.

3) Cyclohexanol, dehydration to cyclohexene, 631.

$C_8H_{12}O_2$. Trans-1-methyl-1,2-cyclopentanediol, preparation, dehydration, 619.

$C_8H_{12}O_3$. Paraldehyde, condensation with N-p-tolyl-2-naphthylamine to form quaternary salts, 949.

$C_8H_{12}N_4$. Hexamethylenetetramine, reaction with benzoylbromoacetaldehyde, 889.

$C_8H_{14}O$. 1-Methylcyclohexanol, preparation, properties, dehydration, 620.

$C_8H_{14}O_2$. Hexamethylene glycol, polycondensation with sebacic acid, 483.

$C_8H_{14}O_3$. 1) Acetaldehyde ethyl 2-hydroxyethyl acetal, reaction with ethylene glycol, 91; action of heat, 92.

2) Mono(isopropoxymethyl) ether of ethylene glycol, preparation, properties, 739.

$C_8H_{14}O_4$. Bis(methoxymethyl) ether of ethylene glycol, preparation, properties, 739.

$C_8H_{16}N_2$. 1,6-Hexanediamine, reaction with dibutyl adipate, 671.

$C_8H_{16}Si$. Diethyldimethylsilane, preparation, properties, Raman spectra, 267.

6. III

C_8H_4LiBr . p-Bromophenyllithium, preparation, properties, 118.

C_8H_4LiCl . p-Chlorophenyllithium, preparation, properties, 119.

C_8H_5HgI . Phenylmercury iodide, preparation, 595.

C_8H_5NCl . Aniline hydrochloride, reaction with antimony trichloride, 271.

$C_8H_8OF_6$. 1) 2H-Hexafluoropropyl propyl ether, preparation, properties, 255.

2) 2H-Hexafluoropropyl isopropyl ether preparation, properties, 255.

$C_8H_9N_2L$. Methiodide of aminopyridine, relative basicity of nitrogen atoms, absorption spectrum, 129.

$C_8H_9O_3Br$. Ethyl 2-bromoacetoacetate, reaction with mercury, 592.

$C_8H_{11}ON$. 1) Caprolactam, formation on hydrolysis of vinylcaprolactam, 97.

2) 4-Dimethylamino-3-buten-2-one, preparation, properties, picrate, reaction with acetic acid, 884.

$C_8H_{11}O_2Br$. Ethyl 2-bromobutyrate, reaction with mercury, 592.

$C_8H_{12}O_2Cl_2$. Acetaldehyde bis(2-chloroethyl) acetal, reaction with dimethylaniline, preparation action, of alcoholic KOH, 644; hydrolysis with sodium carbonate solution, 93.

$C_8H_{13}N_4Br$. Reaction product of benzoylbromoacetaldehyde and hexamethylenetetramine, formation, properties, structure, 889.

$C_8H_{14}OS$. 1) 1-Ethoxy-1-(ethylthio)ethane, preparation, properties, reaction with alcoholic mercuric chloride, 327.

2) 1-Ethoxy-2-(ethylthio)ethane, preparation, properties, 328.

3) 1-Butoxyethylethanethiol, reaction with butyl vinyl ether, 333.

$C_8H_{14}O_2S$. Sulfoxide from oxidation of 1-ethoxy-2-(ethylthio)ethane, preparation, properties, 329.

$C_8H_{15}ON$. 2-(Diethylamino)ethanol, preparation, properties, vinylation, 336.

$C_8H_{15}O_3P$. Triethyl phosphite, preparation, properties, complex with CuI, reaction with propionyl chloride, 434.

$C_8H_{16}SiO$. Triethylsilanol, reaction with butyl vinyl ether, isobutyl vinyl ether, 838.

6. IV

$C_8H_{15}O_2SP$. Diethyl ethylphosphonothionate, preparation, properties, hydrolysis, 154.

$C_8H_{15}O_2PS_2$. O,O-Dipropyl and diisopropyl-hydrogen phosphorothiolothionate, preparation, properties, lead salts, titration, oxidation with iodine, 110.

$C_8H_{15}O_3SiCl$. Triethoxy monochlorosilane, preparation, properties, 436.

Group C₇

7. I

C_7H_8 . Toluene, formation from cyclopentane methylcyclopentane and cyclohexane, 243; content in dehydrogenation product of isomerizate from ethylcyclopentane, 252; formation from 1-octene, 614; formation on catalytic hydrocondensation of cyclohexene, 635; formation from hexane, heptane, octane, 781.

C_7H_{10} . Ethynyldimethylvinylmethanol, reaction with aniline, 275.

C_7H_{12} . 1) 1-Methylcyclohexene, preparation, properties, oxidation, 620.

2) 4-Methylcyclohexene, reactions in contact with activated Troshkov clay, formation of aromatic hydrocarbons, isomerization, cracking, properties, 607.

C_7H_{14} . 1) Ethylcyclopentane, isomerization to methylcyclohexane, 251.

2) Methylcyclohexane, formation from carbon

monoxide and hydrogen, 914; formation from ethylcyclopentane, 251.

C_7H_{16} . 1) Heptane, activity of compressed catalysts on dehydrocyclization of, 27; preparation, properties, high-temperature contact-catalysis reactions in presence of hydrogen at high pressure, 779; formation from octane, 784; chromatography with silica gel, 843.

Heptane, preparation, properties, hydrogen exchange with heavy sulfuric acid, 923.

2) 2,2- and 2,3-Dimethylpentane, formation from carbon monoxide and hydrogen, 914.

3) 2- and 3-Methylhexanes, formation from carbon monoxide and hydrogen, 914.

4) 3-Methylhexane, preparation, properties, hydrogen exchange with heavy sulfuric acid, 925.

5) 2,2,3-Trimethylbutane, preparation, properties, hydrogen exchange with heavy sulfuric acid, 924.

7. II

C_7H_6O . Benzaldehyde, formation from styrene, 322; reaction with dialkyl hydrogen phosphites and ammonia, 769.

$C_7H_6O_2$. Benzoic acid, formation from cyclopentane, 244; formation from Hofmann reaction with amide of N-benzoyl- β -piperonyl- β -alanine, 463; formation on reaction of bromoform with mercury in presence of benzoyl peroxide, 595.

C_7H_7Br . Benzyl bromide, reaction with mercury, 592.

C_7H_7Cl . Benzyl chloride, reaction with butyllithium, 263.

C_7H_7Li . 1) Benzyl lithium, preparation, properties, 263.

2) o, m. and p-Tolyl lithium, preparation, properties, 116.

$C_7H_7O_2$. 3,5-Dimethyl-3-cyclopentene-1,2-dione, condensation with dienones, 827.

$C_7H_8O_2$. 2,4-Dimethyl- Δ^2 -cyclopentene-1,5-dione, preparation, 469.

C_7H_9O . 2,4-Dimethyl-2-cyclopenten-1-one, preparation, properties, 796; condensation with 3,4,4a,7,8,8a-hexahydro-4a-methyl-5-vinyl-2(1H)-naphthalenone and 3,4,4a,5,6,8a-hexahydro-8a-methyl-8-vinyl-2(1H)-naphthalenone, 799; condensation with 3,4,4a,7,8,8a-hexahydro-4a-methyl-5-vinyl-2(1H)- and 3,4,4a,5,6,8a-hexahydro-8a-methyl-8-vinyl-2(1H)-naphthalenones, 817; condensation with 1,2-dihydro-7-methoxy-4-vinylnaphthalene, 980.

$C_7H_{10}O$. 1) Dimethylcyclopentenone, deuterio compound, preparation, properties, structure, ozonization, oxidation, 467.

2) 2-Methyl-2-cyclohexen-1-one, preparation, properties, ozonization, 792; condensation with 3,4,4a,7,8,8a-hexahydro-4a-methyl-5-vinyl-2(1H)- and 3,4,4a,5,6,8a-hexahydro-8a-methyl-8-vinyl-

2(1H)-naphthalenones, 817; properties, condensation with 1,3-butadiene, 961.

3) 2-Methyl-1,5-hexadien-3-one, cyclization with the aid of deuterium, 103; reaction with diethylamine dibutylamine, to amino ketones, 290.

$C_7H_{10}N_2$. 1-(2-Hydroxyethyl)-2(1H)-pyridonimine, relative basicity of nitrogen atoms, absorption spectrum, 129.

$C_7H_{11}Cl_3$. 1,1,7-Trichloroheptene, formation, properties, 880.

$C_7H_{12}O$. 1) 2-Methylcyclohexanone, preparation, properties, conversion to 2-methyl-2-cyclohexen-1-one, bromination, 792.

2) 2-Methylcyclohexanone-1, preparation, properties, 2,4-dinitrophenylhydrazones, 620.

$C_7H_{12}Cl_2$. 1,1-Dichloroheptene, preparation, properties, 880.

$C_7H_{12}Cl_4$. Tetrachloroheptane, splitting off HCl, 880.

$C_7H_{12}O_2$. 1) Methoxy ketone, conversion to diamino ketone, 290.

2) Vinyl valerianate, preparation, properties, 499.

$C_7H_{13}Cl$. 3-Chloro-2,4-dimethyl-1-pentene, preparation, properties, Grignard reagent, reaction with 2,4-dimethyl-3-pentanone, ethylformate and amyl butyrate, 910.

$C_7H_{13}Cl_3$. Trichloroheptane, removal of HCl from, 880.

$C_7H_{14}O$. 1) 2,4-Dimethyl-3-pentanone, reaction with Grignard reagent from 3-chloro-2,4-dimethyl-1-pentene, 910.

2) 4-Heptanone, properties, reductive amination, 81.

3) 2-Methylcyclohexanol, preparation, properties, conversion to ketone, oxidation, 792.

$C_7H_{14}O$. Isoamyl vinyl ether, properties, reaction with 2-chloroethanol, 927.

$C_7H_{14}O_2$. Amyl acetate, decomposition of $C_6H_5(C_6H_5N_2Cl_2 \cdot SbCl_3$ in 272.

$C_7H_{14}Si$. Diallylmethylsilane, properties, Raman spectrum, 159.

$C_7H_{16}O_3$. 1) Mono(isobutoxymethyl) ether of ethylene glycol, preparation, properties, alcoholysis, 740.

2) 1,3,3-Trimethoxybutane, preparation, 74.

$C_7H_{16}O_4$. Bis(methoxymethyl) ether of 1,2-propanediol, preparation, properties, 740; of 1,3-propanediol, preparation, properties, 741.

$C_7H_{17}N$. 1-Propylbutylamine, reductive amination product of 4-heptanone, formation, properties, 83.

$C_7H_{18}Si$. Triethylmethylsilane, preparation, properties, Raman spectra, 267.

7. III

- C_7H_5OCl . Benzoyl chloride, reaction with triethyl phosphite, 769.
- $C_7H_{10}OF_6$. Butyl 2H-hexafluoropropyl ether, preparation, properties, 255.
- $C_7H_{11}O_4Br$. Diethyl bromomalonate, reaction with mercury, 592.
- $C_7H_{13}MgCl$. Grignard reagent from 3-chloro-2,4-dimethyl-1-pentene, reaction with 2,4-dimethyl-3-pentanone, ethyl formate and amyl butyrate, 910.
- $C_7H_{15}NS$. 2,5-Dimethyltetrahydro-1-thiopyran-4-amine, preparation, properties, hydrochloride, acetyl derivative, benzoyl derivative, oxidation of hydrochloride and benzoyl derivative, 457.
- $C_7H_{15}OCl$. 2-Chloroethylpropyl and isopropylacetal, preparation, properties, hydrolysis, 928.
- $C_7H_{15}O_4P$. Product of reaction of triethyl phosphite and propionyl chloride, ethyl ester of propionylphosphinic acid, formation, properties, analysis, reaction sodium nitroprusside, semicarbazone, diethylacetal, 435.
- $C_7H_{15}ON_2$. Hydrazide of heptanoic acid, preparation, reaction with carbonylchloride, 63.

7. IV

- $C_7H_7OPCl_2$. (Chloromethyl)phenylphosphinic chloride, preparation, properties, conversion to acid, reaction with alcohol, 766.
- $C_7H_8O_2PCl$. (Chloromethyl)phenylphosphinic acid, preparation, properties, 766.
- $C_7H_{10}PNO_3$. α -Aminobenzylphosphonic acid, preparation, properties, 774.
- $C_7H_{11}NPtCl_2$. Dichloro(diallylamine)platinum, preparation, reaction with ammonia, pyridine, thiourea, HCl, caustic alkalies, 209.
- $C_7H_{11}F_4ON$. Diethylamide of 2H-tetrafluoropropionic acid, preparation, properties, 260.
- $C_7H_{13}ONS$. 1) 2,5-Dimethyltetrahydro-1-thiopyran-4-one oxime, preparation, conversion, to amine, 457.
2) Lactam from rearrangement of 2,5-dimethyltetrahydro-1-thiopyran-4-one, oxime, preparation, 458.
- $C_7H_{13}O_3NS$. 1) Oxidation product of lactam from 2,5-dimethyltetrahydro-1-thiopyran oxime, 458.
2) Oxime of dihydroxy-2,5-dimethyltetrahydrothiopyran-4-one, preparation, 457.
- $C_7H_{15}NSCl$. Hydrochloride of 2,5-dimethyltetrahydro-1-thiopyran-4-amine. Preparation, properties, oxidation, 457.
- $C_7H_{15}O_2NS$. Thioaminoacid, preparation, 459.

7. V

- $C_7H_{16}ONSCl$. Aminosulfoxide hydrochloride of 2,5-dimethyltetrahydro-1-thiopyran, preparation, 458.
- $C_7H_{16}O_2NSCl$. Aminosulfone hydrochloride of 2,5-

dimethyltetrahydro-1-thiopyran, preparation, 458.

Group C₈

8. I

- C_8H_6 . Phenylacetylene, reaction with ethyllithium, 358.
- C_8H_8 . Styrene, formation by catalytic dehydrogenation of ethylbenzene and ethylcyclohexane, 895, 903; properties, catalytic polymerization in presence of ferric chloride and stannic chloride, 319; theoretical and experimental yields in the catalytic dehydrogenation of ethylbenzene, 365.
- C_8H_{10} . 1) Xylene, formation from cyclopentane, methylcyclopentane and cyclohexane, 243; formation from hexane, heptane, octane, 781.
2) Ethylbenzene, catalytic dehydrogenation to styrene, 365; properties, catalytic dehydrogenation of, 895, 903.
- C_8H_{16} . 1) 1-Octene, reactions in contact with activated Troshkov clay, formation of aromatic hydrocarbons, isomerization, cracking, properties, 607.
2) Ethylcyclohexane, properties, catalytic dehydrogenation to ethylbenzene and styrene, 895; catalytic dehydrogenation to ethylbenzene, 903.
- C_8H_{18} . 1) 2,2-Dimethylhexane, preparation, properties, hydrogen exchange with heavy sulfuric acid, 924.
2) 2,3-Dimethylhexane, formation from octane, 784.
3) 3-Ethyl-3-methylpentane, frequencies of valency vibrations, 269.
4) 4-Methylheptane, formation from octane, 784.
5) Octane, preparation, properties, high-temperature contact-catalysis reactions in presence of hydrogen at high pressure, 779.
6) 2,2,4-Trimethylpentane, preparation, properties, hydrogen exchange with heavy sulfuric acid, 925.

8. II

- $C_8H_4O_3$. Phthalic anhydride, reaction with aminomethylphosphonic acid, 1000.
- C_8H_5Li . Phenylethynyllithium, preparation, properties, 358.
- $C_8H_6O_3$. Piperonal, reaction with dialkyl hydrogen phosphites and ammonia, 769.
- $C_8H_6O_4$. Terephthalic acid, formation, 309.
- C_8H_8O . 1) Acetophenone, condensation with 3-camphenilancarboxaldehyde, 731.
2) p-Anisaldehyde, reaction with dialkyl hydrogen phosphites and ammonia, 769.
3) p-Tolualdehyde, reaction with dialkyl hydrogen phosphites and ammonia, 769.

- $C_8H_8O_2$. Phenylacetic acid, formation from benzyl chloride and butyllithium, 263.
- $C_8H_8O_3$. 1) Acetyl resorcinol, preparation, reaction with NaOH, 495.
- 2) 2',6'-Dihydroxyacetophenone, preparation, methylation, 675.
- 3) Vanillin, reaction with dialkyl hydrogen phosphites and ammonia, 769.
- C_8H_9Br . (2-Bromoethyl)benzene, reaction with mercury, 592.
- $C_8H_{11}N$. Dimethylaniline, reaction with acetaldehyde bis(2-chloroethyl)acetal, 644.
- $C_8H_{14}O_2$. 1) 5-Methoxy-2-methyl-1-hexen-3-one, reaction with diethylamine dibutylamine to form amine ketones, 290.
- 2) Vinyl caproate, preparation, properties, hydrogenation, hydrolysis, 499.
- $C_8H_{14}O_4$. Bis(methoxymethyl)ether of 2-butyne-1,4-diol, preparation, properties, 743.
- $C_8H_{14}O_8$. Diethyl succinate, 2,3-d₂, preparation, polyester exchange reaction with polyhexamethylene sebacate, 125.
- $C_8H_{16}O$. 1) Hexyl vinyl ether, copolymerization with ethyl vinyl ether, 647; properties, ionic polymerization of, 941.
- 2) Copolymerization product of hexyl vinyl ether and ethyl vinyl ether, formation, properties, 649.
- 3) 2-Octanone, properties, reductive amination, 81.
- $C_8H_{16}O_3$. Methoxy ketone, conversion to diamino ketone, 290.
- $C_8H_{17}Si$. Triethyl(2-methylpropenyl)silane, properties, Raman spectrum, 159.
- $C_8H_{18}O_3$. 1) Mono(butoxymethyl)ether of 1,2-propanediol, preparation, properties, 741.
- 2) Bis(2-ethoxyethyl)ether, preparation, synthesis of lithium aluminum chloride in, 527.
- 3) Acetaldehyde 2-ethoxy ethyl acetal, preparation, properties, 644.
- $C_8H_{18}O_4$. Bis(methoxymethyl)ether of 1,3-butanediol, preparation, properties, 742.
- $C_8H_{19}N$. Dibutylamine, reaction with 2-methyl-1,5-hexadien-3-one, also, 5-methoxy-2-methyl-1-hexen-3-one, to form amino ketone, 290; 5-methyl-1,4-hexadien-3-one, 1-methoxy-5-methyl-4-hexen-3-one, 1-methoxy-5-methyl-3-hexanone, 291.

8. III

- C_8H_7OBr . 1) Bromomethyl phenyl ketone, reaction with mercury, 593.
- 2) Bromo(phenyl)acetaldehyde, reaction with mercury, 593.
- C_8H_7HgBr . (Bromomercuri)phenylacetic acid, (1)-menthyl esters of, preparation, properties, 583.
- $C_8H_7O_2Br$. Bromo(phenyl)acetic acid, reaction with

menthol, 585.

- $C_8H_{15}ON$. Vinylcaprolactam, reaction with water in presence of hydrogen peroxide hydrolysis, polymerization, 97.
- $C_8H_{15}N_2I$. Methiodide of 2-dimethylaminopyridine, relative basicity of nitrogen atoms, absorption spectrum, 129.
- $C_8H_{14}N_2O_2$. 5-Hexyl-1,3,4-oxadiazol-2(3H)-one, preparation. Action of ammonia, hydrolysis, 61.
- $C_8H_{15}ON$. 4-Diethylamino-3-buten-2-one, preparation, properties, picrate, 885.
- $C_8H_{15}ON_3$. 5-Hexyl-1 H-1,2,4-triazol-3(2H)-one, preparation, 65.
- $C_8H_{15}N_3S_2$. Thiosemicarbazone of 2,5-dimethyltetrahydro-1-thiopyran-4-one, preparation, 459.
- $C_8H_{16}O_2S$. 2-Butoxyethyl thiolacetate, preparation, properties, 333.
- $C_8H_{17}OCl$. 2-Chloroethyl isobutyl acetal, preparation, properties, hydrolysis, 928.
- $C_8H_{17}ON$. 1) 1-Dimethylamino-1-hexen-3-one, preparation, properties, 885.
- 2) Vinyl ether of 2-(diethylamino)ethanol, preparation, properties, hydrogenation, formation of acetals, 337.
- $C_8H_{17}O_2N_3$. 1-Heptanoylsemicarbazide, preparation, action of KOH, 65.
- $C_8H_{18}OS$. 1) 1-Butoxy-1-(ethylthio)ethane, preparation, properties, 328, 331.
- 2) 1-Butoxy-2-(ethylthio)ethane, preparation, properties, oxidation, 329.
- $C_8H_{18}O_2S$. 1-Ethoxyethyl-2-ethoxyethyl sulfide, preparation, properties, 331.
- $C_8H_{19}ON$. Ethyl ether of 2-(diethylamino)ethanol, preparation, properties, 337.
- $C_8H_{19}OP$. Dibutyl hydrogen phosphite, reaction with piperonal, benzaldehyde, 769.

8. IV

- $C_8H_{10}O_2PCL$. Methyl(chloromethyl)phenylphosphinic acid, preparation, properties, 766.
- $C_8H_{12}NPO_3$. α -Amino-p-methylbenzylphosphonic acid, preparation, 774.
- $C_8H_{12}NPO_4$. α -Amino-p-methoxybenzylphosphonic acid, preparation, 775.
- $C_8H_{12}NPO_5$. α -Amino-4-hydroxy-3-methoxybenzylphosphonic acid, preparation, 776.
- $C_8H_{15}O_2N_3S_2$. Thiosemicarbazone of dihydroxy-2,5-dimethyltetrahydro-1-thiopyran-4-one, preparation, 459.
- $C_8H_{15}O_3N_3S$. Semicarbazone of dihydroxy-2,5-dimethyltetrahydro-1-thiopyran-4-one, preparation, 459.
- $C_8H_{16}NPO_5$. α -Amino-3,4-methylenedioxybenzylphosphonic acid, preparation, 776.
- $C_8H_{17}O_4PS$. Diethyl ethoxycarbonylmethylphosphonothionate, preparation, properties, hydrolysis, 155.

$C_8H_{20}O_4P_2S_4$. Disulfide obtained from O,O-diethyl hydrogen phosphorothiolothionate, 111.

8. V

$C_8H_{20}O_4P_2S_4Pb$. 1) Lead bis(O,O-diethylphosphorothiolothionate), preparation, 110.

2) Lead salt of reaction product of sodium O,O-diethyl phosphorothioite and sulfur, 154.

$C_8H_{25}N_2P_2O_4I$. Product of reaction of aminomethylphosphonic acid and methyl iodide, 1000.

Group C_9

9. II

C_9H_9Br . Cinnamyl bromide, reaction with mercury, 593.

C_9H_9Cl . Cinnamyl chloride, reaction with mercury, 592.

$C_9H_{11}Br$. (3-Bromopropyl)benzene, preparation, reaction with benzene, 307.

$C_9H_{18}O_2$. Ethyl 1,1-dimethyl-2-propynyl acetal, preparation, properties, hydrolysis, 945.

$C_9H_{18}Cl_4$. Tetrachlorononane, removal of HCl from, 880.

$C_9H_{17}Cl_3$. 1,1,9-Trichlorononene, preparation, properties, 880.

$C_9H_{18}O_2$. Amyl butyrate, reaction with Grignard reagent from 3-chloro-2,4-dimethyl-1-pentene, 911.

$C_9H_{18}O_4$. Butoxyethylidene lactate, preparation, properties, 502.

$C_9H_{20}O_2$. 1) Dibutoxymethane, preparation, properties, 739.

2) Diisobutoxymethane, preparation, properties, 740.

$C_9H_{20}O_3$. Ethyl ester of orthopropionic acid, reaction with phosphorous trichloride, 433.

$C_9H_{20}O_4$. 1) Bis(ethoxymethyl)ether of 1,2-propanediol, preparation, properties, 741.

2) Bis(ethoxymethyl)ether of 1,3-propanediol, preparation, properties, alcoholysis, 742.

9. III

$C_9H_8O_4N_2$. 5-Piperonyl-1,3,4-oxadiazol-2(3H)-one, preparation, 463.

$C_9H_8F_3O$. 2H-Hexafluoropropyl phenyl ether, preparation, properties, 255.

$C_9H_7O_2Br$. Benzoylbromoacetaldehyde, reaction with hexamethylenetetramine, urea, 889.

C_9H_9HgBr . Cinnamylmercury bromide, preparation, properties, 593.

$C_9H_{15}ON$. 1) 2-Methyl-4-ketoperhydro-1-pyridine, preparation, properties, picrate, isomerization, 450.

2) 4-Piperidino-3-buten-2-one, preparation, properties, picrate, 885.

$C_9H_{17}ON$. 1-Dimethylamino-5-methyl-1-hexen-3-one, preparation, properties, 885.

$C_9H_{19}OCl$. 2-Chloroethyl isopentyl acetal, preparation, properties, hydrolysis, 928.

9. IV

$C_9H_8NPO_3$. Phthalimidomethylphosphonic acid, preparation, 1000.

$C_9H_{12}O_2PCL$. Ethyl(chloromethyl)phenylphosphinate, preparation, properties, 766.

$C_9H_{14}N_2O_4Cl$. Addition product of (chloroacetamido)-methylphosphonic acid and aniline, formation 1000.

$C_9H_{17}ONS$. Acetyl derivative of 2,5-dimethyl-tetrahydro-1-thiopyran-4-amine; preparation, 458.

Group C_{10}

10. I

$C_{10}H_{12}$. Tetrahydronaphthalene, formation, 307.

$C_{10}H_{18}$. 1) Allo-ocimene, preparation, properties, autoxidation, 423.

2) Camphene, formation from α -pinene, 750.

3) Δ^3 -Carene, isomerization by the action of silica gel under conditions of adsorptional analysis, 751.

4) α -Pinene, isomerization by the action of silica gel under conditions of adsorptional analysis, 749.

5) Terpinolene, formation from dipentene α -pinene, Δ^3 -carene, 750.

6) Dipentene, formation from α -pinene, 749; isomerization by the action of silica gel under conditions of adsorptional analysis, 750.

$C_{10}H_{18}$. 1-Butyl-2-methylcyclopentene, preparation, properties, hydrogenation, 622.

$C_{10}H_{18}$. 1-Butyl-2-methylcyclopentane, preparation, separation into cis and trans isomers, 622.

10. II.

$C_{10}H_7I$. 1-Iodonaphthalene, reaction with mercury, 595.

$C_{10}H_7Li$. 1-Naphthyllithium, preparation, properties, 119.

$C_{10}H_8O$. β -Naphthol, reaction with methyl- β -chlorovinylketone, 430.

$C_{10}H_8O_3$. 7-Hydroxy-4-methylcoumarin, preparation, acetylation, action of NaOH, 495.

$C_{10}H_{12}O$. p-Isopropylbenzaldehyde, reaction with dialkyl hydrogen phosphites and ammonia, 769.

$C_{10}H_{12}O_2$. 2,6-Dimethoxystyrene polymer, preparation, 497.

$C_{10}H_{12}O_3$. 1) 2,6-Dimethoxyacetophenone, preparation, polymerization, reduction, 496.

2) 2',6'-Dimethoxyacetophenone, preparation, action of methylmagnesium iodide, 675.

$C_{10}H_{14}O_2$. Dienone from reaction of methoxy ketone

with p-toluenesulfonic acid, preparation, properties, 289.

$C_{10}H_{14}N_2$. Anabasine, isolation from *Anabasis aphylla*, oxidation, fission, amination, sulfonation, cyan-ethylation, reaction with aliphatic oxides, 471.

$C_{10}H_{18}O$. 1) 3-Camphenilancarboxaldehyde, condensation with ketones, ethyl acetate and ethyl acetate, 727.

2) β -Decalone, condensation with ethyl chloroacetate, 231.

$C_{10}H_{18}O_2$. 1) Secondary oxide of allo-ocimene, preparation, determination of degree of unsaturation, active hydrogen, peroxide oxygen, color reaction with pyridine, reaction with manganese chloride, methanol, hydrogenation, hydration, 425.

2) Polyperoxide of allo-ocimene, preparation, nature of oxygen bonds, determination of degree of unsaturation, behavior on storage, and heating, 423.

$C_{10}H_{18}O$. Unsaturated ketone, formation, semicarbazone, 910.

$C_{10}H_{18}O_2$. Isopropyl 1,1-dimethyl-2-propynyl acetal, preparation, properties, alcoholysis, hydrolysis, 946.

$C_{10}H_{18}O_4$. 1) Diethyl adipate, reaction with N,N'-hexamethylenebisacetamide, ethylene glycol, 672; preparation, properties, reaction with sodium and alcohol, 794.

2) Sebacic acid, polycondensation with hexamethylene glycol, 483.

$C_{10}H_{18}O_6$. Bis(2-hydroxyethyl)adipate, preparation, determination of hydroxyl groups, preparation of polyester, 670.

$C_{10}H_{20}O_2$. N,N'-hexamethylenebisacetamide, action of adipic acid, diethyl adipate, 672.

$C_{10}H_{20}O_4$. Unsaturated aliphatic tetrahydric terpene alcohol, formation, acetylation, 427.

$C_{10}H_{22}O$. 1) Diisopentyl ether, decomposition of $(C_5H_9N_2Cl)_2 \cdot SbCl_3$ in, 272.

2) 1-Butyl-2-methylcyclopentanol, preparation, properties, dehydration, 621.

$C_{10}H_{22}O_2$. 1) Saturated aliphatic terpene glycol, formation, 427.

2) Dibutylacetal, formation, properties, 502.

$C_{10}H_{22}O_3$. Acetaldehyde butyl 2-ethoxyethyl acetal, preparation, properties, 645.

$C_{10}H_{22}O_4$. 1) Bis(2-ethoxyethyl)acetal, of acetaldehyde, preparation, properties, 645.

2) Bis(ethoxymethyl) ether of 1,3-butanediol, preparation, properties, 742.

10. III

$C_{10}H_7HgI$. 1-Naphthylmercury iodide, preparation, 595.

$C_{10}H_8O_2N_2$. 1) 2-Amino-5-benzoyloxazole, preparation, properties, hydrochloride acetyl derivative, chemical reactions, 890.

2) 4-Phenyl-2,5-pyrimidinediol, preparation, diacetyl derivative, monobenzyl ether, 891.

$C_{10}H_{10}O_3N_2$. 5-Piperonylglyoxalidone, preparation, 463.

$C_{10}H_{11}O_2Br$. Ethyl bromo(phenyl)acetate, reaction with mercury, 593.

$C_{10}H_{14}ON_2$. 2-Amino-5-benzoyloxazolidine, (3-phenylpropylurea), formation, hydrogenation, 890.

$C_{10}H_{17}ON$. 1,2-Dimethyl-4-ketoperhydro-1-pyridine, preparation, properties, picrate, isomerization, 450.

$C_{10}H_{17}O_2Cl$. Dichlorohydrin formed from allo-ocimene secondary oxide and manganese chloride, 426.

$C_{10}H_{18}O_2Cl_2$. Dichlorohydrin formed from allo-ocimene secondary oxide and manganese chloride, 426.

$C_{10}H_{19}NO$. Lupinine, isolation from *Anabasis aphylla*, 471.

$C_{10}H_{22}SiO_2$. Triethylsilyl butyrate, preparation, properties, 121.

10. IV

$C_{10}H_9OFeCl_4$. 1) 1-Methylbenzopyranyl ferrichloride preparation, 431.

2) 2-Methylbenzopyranyl ferrichloride, preparation, 432.

$C_{10}H_9O_2N_2Cl$. Hydrochloride of 2-amino-5-benzoyloxazole, formation, 890.

$C_{10}H_9O_3N_2Na$. Sodium salt of the enolate of phenyl-3-ureido-1,2-propanedione, preparation, 891.

$C_{10}H_{11}O_2HgBr$. Ethyl(bromomercuri)phenylacetate, preparation, properties, symmetrization, reaction with acetyl chloride, 593.

$C_{10}H_{14}NPO_5$. Ethyl hydrogen α -amino-3,4-methylenedioxybenzylphosphonate, preparation hydrochloride, 775.

$C_{10}H_{16}NPO_3$. α -Amino-p-isopropylbenzylphosphonic acid, preparation, 775.

Group C₁₁

11. II

$C_{11}H_8O_3$. 4-Methylumbelliferone, preparation, acetylation, 675.

$C_{11}H_9O_2$. Hexahydro-8a-methyl-1,6-(2H,5H)-naphthalenedione, preparation, 78.

$C_{11}H_{13}N_2$. 1-Benzyl-2(1H)-pyridonimine, relative basicity of nitrogen atoms, absorption spectrum, 129.

$C_{11}H_{13}N_3$. 1-Methyl-3-(1-methyl-2-pyrrolidinyl)-2(1H)pyridonimine, preparation, relative basicity of nitrogen atoms, absorption spectrum, 129.

$C_{11}H_{14}O$. 1,2,3,4-Tetrahydro-6-methoxynaphthalene, preparation, oxidation, 981.

$C_{11}H_{14}O_2$. 2,6-Dimethoxy- α -methylstyrene, preparation, 678.

$C_{11}H_{16}O$. Cis-3,4,4a,5,8,8a-Hexahydro-8a-methyl-1(2H)-naphthalenone, preparation, properties, semicarbazone, hydrogenation, condensation with acetylene, 961.

$C_{11}H_{18}O$. 1) Cis-octahydro-8a-methyl-1(2H)-naphthalenone, preparation, properties, dinitrophenylhydrazone, 961.

2) Decahydro-2-naphthaldehyde, preparation, condensation with malonic acid, 231; semicarbazone, 232.

$C_{11}H_{18}O_3$. 1) Methoxy ketone from isomerization of tetrahydro-2-methyl-4-(vinylethynyl)pyran-4-ol, preparation, properties, hydrogenation, oxidation, reaction with p-toluenesulfonic acid, dimethylamine, piperidine, 289.

2) Tetrahydro-2-methyl-4-(vinylethynyl)pyran-4-ol, preparation, properties, isomerization, 289.

$C_{11}H_{20}O_2$. 1) Butyl 1,1-dimethyl-2-propynyl acetal, preparation, properties, 947.

2) Isobutyl 1,1-dimethyl-2-propynyl acetal, preparation, properties, hydrolysis, 947.

$C_{11}H_{22}O_3$. Hydrogenation product of methoxy ketone, preparation, properties, 289.

$C_{11}H_{24}O_4$. 1) Bis(isopropoxymethyl)ether of 1,2-propanediol, preparation, properties, 741.

2) Bis(isopropoxymethyl) ether of 1,3-propanediol, preparation, properties, 742.

$C_{11}H_{25}O_5P$. Diethylacetal of the ethyl ester of propionyl phosphinic acid, preparation, properties, saponification, 434.

11. III

$C_{11}H_{13}O_2Br$. Ethyl 2-bromo-2-phenylpropionate, reaction with mercury, 592.

$C_{11}H_{15}O_4P$. Diethylbenzoylphosphonate, formation, p-nitrophenylhydrazone, 769.

$C_{11}H_{17}PO_3$. Diethyl α -hydroxybenzylphosphonate, preparation, reaction with ammonia in presence of sodium ethoxide, 776.

$C_{11}H_{19}ON$. 1) 2,9-Dimethyl-4-ketodecahydroquinoline, preparation, properties, picrate, isomerization, 450.

2) 2,6,7a-Trimethyl-4-ketoperhydro-1-pyridine, preparation, properties, picrate, 451.

$C_{11}H_{21}ON$. Decahydro-1,2-dimethyl-4-quinolinol, preparation, 663.

$C_{11}H_{21}N_3O$. Semicarbazone of unsaturated ketone, 911.

$C_{11}H_{24}SiO_2$. Triethylsilyl isovalerate, preparation, properties, 122.

11. IV

$C_{11}H_{17}O_2PS$. Diethyl benzylphosphonothionate, preparation, properties, 155.

11. V

$C_{11}H_{19}NPO_3Cl$. 1) Reaction product of diethyl α -hydroxybenzylphosphonate and ammonia, 776.

2) Hydrochloride of diethyl α -aminobenzylphosphonate, preparation properties, 773.

Group C_{12}

12. I

$C_{12}H_{26}$. Dodecane, preparation, properties, hydrogen exchange with heavy sulfuric acid, 923.

12. II

$C_{12}H_9Li$. 4-Biphenyllithium, preparation, properties, 119.

$C_{12}H_{10}O_3$. 7-Acetoxy-4-methylcoumarin, preparation, reaction with aluminum chloride, 495.

$C_{12}H_{12}N_2$. 2-Benzylaminopyridine, preparation, relative basicity of nitrogen atoms, absorption, spectrum, 129.

$C_{12}H_{12}O_3$. Triacetylbenzene, formation, 886.

$C_{12}H_{18}O_2$. Diacetylenic acetal, preparation, properties, 946.

$C_{12}H_{22}O_4$. Bis(isopropoxymethyl)ether of 2-butyne-1,4-diol, preparation, properties, 743.

$C_{12}H_{24}O$. Decyl vinyl ether, properties, ionic polymerization of, 942.

$C_{12}H_{24}O_3$. Butoxyethylidene caproate, formation, properties, 501.

$C_{12}H_{24}O_4$. Reaction product of secondary oxide of allo-octimene and methanol, 426.

$C_{12}H_{26}O_4$. 1) Bis(butoxymethyl)ether of ethylene glycol, preparation, properties, 740.

2) Bis(isobutoxymethyl) ether of ethylene glycol, preparation, properties, 740.

3) Bis(isopropoxymethyl) ether of 1,3-butanediol, preparation, properties, 743.

12. III

$C_{12}H_{19}O_3N_2$. Acetyl derivative of 2-amino-5-benzoyloxazole, formation, transformations, 890.

$C_{12}H_{12}ON_3$. Semicarbazone of cis-3,4,4a,5,8,8a-hexahydro-8a-methyl-1(2H)-naphthalenone, formation, properties, 961.

$C_{12}H_{12}O_4N_2$. 3-(3-Acetyllureido)-1-phenyl-1,2-propanedione, preparation, properties, hydrogenation, potassium salt, conversion to hydantoin, 890, 892.

$C_{12}H_{15}O_5N$. N-acetyl- β -piperonyl- β -alanine, preparation, reaction with thionyl chloride, 462.

$C_{12}H_{14}O_4N_2$. Amide of N-acetyl- β -piperonyl- β -alanine, preparation, Hofmann reaction, 462.

$C_{12}H_{14}O_5N_2$. Amide of N-carbomethoxy- β -piperonyl- β -alanine, preparation, Hofmann reaction, 463.

$C_{12}H_{15}O_2N_4$. Picrate of 4-dimethylamino-3-buten-2-one, formation, 885.

$C_{12}H_{21}ON$. 1) 1,2,6,7a-Tetramethyl-4-ketoperhydro-1-pyridine, preparation, properties, picrate isomerization, 451.

- 2) 1,2,9-Trimethyl-4-ketodecahydroquinoline, preparation, properties, picrate, isomerization, 449.
- $C_{12}H_{21}ON_3$. Semicarbazone of decahydro-2-naphthaldehyde, formation, 232.
- $C_{12}H_{21}O_2N$. Amino ketone, preparation, properties, 289.
- $C_{12}H_{21}O_3N_3$. 5-(2-Acetamidooctyl)-1,3,4-oxadiazol-2(3H)-one, preparation, action of NH_3 , 63.
- $C_{12}H_{24}N_4O_3$. 1) Semicarbazide derivative formed from 3-acetamidononanoic acid hydrazide, 61.
2) 1-(3-Acetamidononanoyl)-semicarbazide, preparation, 65.
- $C_{12}H_{25}O_3N_3$. Hydrazide of 3-(ethoxycarbonylamino)-nonanoic acid, preparation, 64.
- $C_{12}H_{28}O_2S$. 1) bis(2-Butoxyethyl)sulfide, preparation, properties, 332.
2) 1-Butoxyethyl, 2-butoxyethyl sulfide, preparation, properties, 332.
- $C_{12}H_{28}Si_2O_4$. Bis(trimethylsilyl) adipate, preparation, properties, 123.
- $C_{12}H_{27}O_2N$. Acetaldehyde butyl-2-(diethylamino) ethyl acetal, preparation, properties, hydrolysis, 337.
- $C_{12}H_{28}SiO_2$. 1) Acetaldehyde butyl triethylsilyl acetal, preparation, properties, hydrolysis, 838.
2) Acetaldehyde isobutyl triethylsilyl acetal, preparation, properties, 838.

12. IV

- $C_{12}H_{18}N_4Cl_5Sb$. Double diazonium salt, use in the synthesis of organoantimony compounds, preparation, decomposition in various solvents, and by various metals, 271.
- $C_{12}H_{11}O_4N_2K$. Potassium salt of the mono-enolate of 3-(3-acetyluroido)-1-phenyl-1,2-propanedione, formation, 891.
- $C_{12}H_{13}O_4N_2Br$. Product of Hofmann reaction with amide of N-acetyl- β -piperonyl- β -alanine, 465.
- $C_{12}H_{26}O_4P_2S_4$. Disulfide obtained from O,O-diisopropyl hydrogen phosphorothiolothionate, 111.

12. V

- $C_{12}H_{19}NPO_5Cl$. Hydrochloride of diethyl α -amino-3,4-methylenedioxybenzylphosphonate, preparation, 775.
- $C_{12}H_{21}NPClO_3$. Hydrochloride of diethyl α -amino-p-methylbenzylphosphonate, preparation, 774.
- $C_{12}H_{21}NPO_4Cl$. Hydrochloride of diethyl α -amino-p-methoxybenzylphosphonate, preparation, reaction with HCl, 775.
- $C_{12}H_{21}NPClO_5$. Hydrochloride of diethyl α -amino-4-hydroxy-3-methoxybenzylphosphonate, preparation, reaction with HCl, 776.
- $C_{12}H_{28}O_4P_2S_4Sb$. Lead bis(O,O-diisopropyl phosphorothioionate), preparation, 111.

Group C₁₃

13. I

- $C_{13}H_{18}$. 3,4,4a,5,8,8a-Hexahydro-8a-methyl-1-vinyl-

naphthalene, preparation, properties, condensation with maleic anhydride, citraconic anhydride, 2-methyl-2-cyclopenten-1-one, 2,4-dimethyl-2-cyclopenten-1-one, 2-methyl-2-cyclohexen-1-one, 2-cyclohexen-1-one, 3,5-dimethyl-3-cyclopenten-1,2-dione, p-benzoquinone, 962.

13. II

- $C_{13}H_8O$. Fluorenone, preparation, conversion to 9-methylfluorenone, 489.
- $C_{13}H_9Li$. 9-Fluorenyllithium, preparation, properties, 357.
- $C_{13}H_{10}O$. 1,2-Dihydro-7-methoxy-4-vinylnaphthalene, preparation, properties, condensation with cyclic ketones to estrone derivatives, 982.
- $C_{13}H_{12}O$. 4-Ethynyl-1,2-dihydro-7-methoxynaphthalene, preparation, properties, hydrogenation, condensation with 2-cyclopenten-1-one, 981.
- $C_{13}H_{18}O$. 1-Ethynyl-1,2,3,4,4a,5,8,8a-octahydro-8a-methyl-1-naphthol, preparation, properties, exhaustive hydrogenation, 961.
- $C_{13}H_{18}O_2$. 1) 5-Ethynyloctahydro-5-hydroxy-4a-methyl-2(1H)-naphthalenone, preparation, hydrogenation, splitting off acetylene, 76.
2) 8-Ethynyloctahydro-8-hydroxy-8a-methyl-2(1H)-naphthalenone, preparation, hydrogenation, 76.
- $C_{13}H_{20}O$. 1) 1,2,3,4,4a,7,8,8a-octahydro-4a-methyl-5-vinyl-2-naphthol, preparation, properties, condensation with p-benzoquinone, 823.
2) 1,2,3,4,4a,5,8,8a-Octahydro-8a-methyl-1-vinyl-1-naphthol, preparation, properties, dehydration, 962.
3) Condensation product of acetone and 3-camphenilancarboxaldehyde, formation, properties, semicarbazone, 729.
- $C_{13}H_{20}O_2$. 1) Octahydro-5-hydroxy-4a-methyl-5-vinyl-2(1H)naphthalenone, preparation, dehydration, 77.
2) Octahydro-8-hydroxy-8a-methyl-8-vinyl-2(1H)-naphthalenone, preparation, dehydration, 77.
- $C_{13}H_{22}O_2$. 1) 5-Ethyloctahydro-5-hydroxy-4a-methyl-2(1H)-naphthalenone, preparation, 76.
2) 8-Ethyloctahydro-8-hydroxy-8a-methyl-2(1H)-naphthalenone, preparation, 77.
3) Product of reduction of 3,4,4a,7,8,8a-hexahydro-4a-methyl-5-vinyl-2(1H)-naphthalenone, 824.
- $C_{13}H_{24}O$. 1-Ethyldecahydro-8a-methyl-1-naphthol, preparation, properties, 962.
- $C_{13}H_{28}O_4$. 1) Bis(isobutoxymethyl) ether of 1,2-propanediol, preparation, properties, 641; alcoholysis, 741.
2) Bis(butoxymethyl) ether of 1,3-propanediol, preparation, properties, 742.

3) Bis(isobutoxymethyl) ether of 1,3-propanediol, preparation, properties, alcoholysis, 742.

13. III

- $C_{13}H_{13}NO$. 2,5-Dimethyl-1-phenyl-4-piperidone, preparation, hydrogenation, 275.
- $C_{13}H_{19}ON$. Mixture of stereoisomeric 2,5-dimethyl-1-phenyl-4-piperidinols, formation, hydrochloride, picrate, 278.
- $C_{13}H_{22}ON_2$. 4-(2-Decalyl)-2-imidazolidinone, preparation, 235.
- $C_{13}H_{21}ON$. 4-Ethynyldecahydro-1,2-dimethyl-4-quinolinol, preparation, solubility, picrate, 659.
- $C_{13}H_{22}ON_2$. Decahydro-4-hydroxy-1,2,8a-trimethylcinchoninonitrile, preparation, cyanohydrin, 665.
- $C_{13}H_{21}O_2N_3$. Semicarbazone of hexahydromethoxymethyl-1(2H)-naphthalenone, preparation, 75.
- $C_{13}H_{23}ON$. Decahydro-1,2-dimethyl-4-vinyl-4-quinolinol, preparation, 660.
- $C_{13}H_{23}O_2N$. β -(2-Decalyl)- β -alanine (β -amino-decahydro-2-naphthalenepropionic acid), preparation, properties, benzoyl derivative, 232.
- $C_{13}H_{23}O_2N_3$. Octahydro-1(2H)-naphthalenone derivative semicarbazone, formation, 75.
- $C_{13}H_{23}O_4N_3$. Product of reaction of hypobromite with ureide of 3-(ethoxycarbonylamino)-nonanoic acid 65.
- $C_{13}H_{25}ON$. 4-Ethyldecahydro-1,2-dimethyl-4-quinolinol, preparation, picrate, 660.
- $C_{13}H_{25}O_4N_3$. Ureide of 3-(ethoxycarbonylamino)-nonanoic acid, preparation, action of hypobromite, 64.
- $C_{13}H_{28}SiO_2$. Triethylsilyl heptanoate, preparation, properties, 122.

13. IV

- $C_{13}H_{12}OPCl$. (Chloromethyl)diphenylphosphine, preparation, properties, 767.
- $C_{13}H_{20}ONCl$. 2,5-Dimethyl-1-phenyl-4-piperidinol hydrochloride, formation, hydrogenation, 278.

Group C_{14}

14. I

- $C_{14}H_{12}$. 1) 1,1-Diphenylethylene, preparation, dimerization, 487.
- 2) Diphenylethylene, polymerization, 991.
- $C_{14}H_{14}$. Diphenylethane, chlorination, nitration, sulfonation, 481.
- $C_{14}H_{20}$. 1) 1,2,4a,5,6,8a-Hexahydro-4a-7-dimethyl-4-vinylnaphthalene, preparation, properties, condensation with 2-cyclohexen-1-one, 78.
- 2) 3,4,4a,7,8,8a-Hexahydro-6,8a-dimethyl-1-vinylnaphthalene, preparation, properties, condensation with 2-cyclohexen-1-one, 78.

14. II

- $C_{14}H_{16}Cl_2$. Diphenyldichloroethylene, formation, 481.

$C_{14}H_{16}O_4$. Benzoyl peroxide, as catalyst in copolymerization of methacrylic acid and alkyl vinyl ethers, 934; reaction of bromoform and carbon tetrachloride with mercury in presence of, 595.

$C_{14}H_{12}O$. 9-Methylfluorene, preparation, conversion to polydiphenylethylene, 489.

$C_{14}H_{22}O$. 1) 1,2,3,4,4a,7,8,8a-Octahydro-2,4a-dimethyl-5-vinyl-2-naphthol, preparation, properties, dehydration, condensation with dimethyl maleate, 78.

2) 1,2,3,4,4a,7,8,8a-Octahydro-2,8a-dimethyl-8-vinyl-2-naphthol; preparation, properties, dehydration, condensation with dimethyl maleate, 78.

3) Condensation product of 2-butanone and 3-camphenilancarboxaldehyde, formation, properties, semicarbazone, 730.

4) Condensation product of ethyl acetate and 3-camphenilancarboxaldehyde, formation, properties, 732.

$C_{14}H_{22}O_3$. Glycidic ester, preparation, reaction with potash, 232.

$C_{14}H_{22}O_3$. Acid diadipic ester of ethylene glycol, preparation, 849.

$C_{14}H_{26}O_4$. 1) Bis(butoxymethyl) ether of 2-butyne-1,4-diol, preparation, properties, 743.

2) Bis(isobutoxymethyl) ether of 2-butyne-1,4-diol, preparation, properties, 743.

3) Dibutyl adipate, reaction with ethylene glycol, 1,6-hexanediamine, 671.

$C_{14}H_{28}O$. Alcohol from reaction of Grignard reagent from 3-chloro-2,4-dimethyl-1-pentene and 2,4-dimethyl-3-pentanone, formation, ozonization, dehydration, 910.

$C_{14}H_{30}O_4$. 1) Bis(butoxymethyl) ether of 1,3-butane-diol, preparation, properties, 743.

2) Bis(isobutoxymethyl) ether of 1,3-butanediol, preparation, properties, 743.

14. III

$C_{14}H_{11}O_5Cl$. 2-Methylnaphthopyranil perchlorate, preparation, solubility, 431.

$C_{14}H_{12}O_4N_2$. Diacetyl derivative of 4-phenyl-2,5-pyrimidinediol, formation, 891.

$C_{14}H_{18}O_2N_4$. Picrate of 4-diethylamino-3-buten-2-one, formation, 885.

$C_{14}H_{21}ON_3$. 1) Semicarbazone of 3,4,4a,5,6,8a-hexahydro-8a-methyl-8-vinyl-2(1H)-naphthalenone, preparation, 77.

2) Semicarbazone of 3,4,4a,7,8,8a-hexahydro-4a-methyl-5-vinyl-2(1H)naphthalenone, preparation, 77.

$C_{14}H_{23}ON$. 2-Methyl-4-ketoperhydro-6,7-(7,8)-benzoquinoline, preparation, properties, 452.

$C_{14}H_{23}ON_3$. Semicarbazone of condensation product of acetone and 3-camphenilancarboxaldehyde, formation, 730.

- $C_{14}H_{24}O_3N_2$. N-Carbamoyl- β -(2-decalyl)- β -alanine (decahydro- β -ureido-2-naphthalene propionic acid), preparation, action of HCl, 234.
- $C_{14}H_{25}O_3N$. Methyl decahydro-4-hydroxy-1,2,8a-trimethylcinchoninate, preparation, 666.
- $C_{14}H_{30}ON_2$. Diamino ketone, preparation, properties, [1,5-bis(diethylamino)-3-hexanone], 290.
- $C_{14}H_{32}O_2N_2$. Acetaldehyde bis[2-(diethylamino)ethyl] acetal, preparation, properties, 339.

14. IV

- $C_{14}H_{11}OCl_4Fe$. 2-Methylnaphthopyranyl ferrichloride, preparation, solubility, degradation, conversion to perchlorate, 430.
- $C_{14}H_{14}O_3NS$. Sulfone from aminobenzoyl derivative of 2,5-dimethyltetrahydro-1-thiopyran, preparation, 458.
- $C_{14}H_{19}ONS$. Benzoyl derivative of 2,5-dimethyl-tetrahydro-1-thiopyran-4-amine, preparation, oxidation, 458.

14. V

- $C_{16}H_{25}NPClO_3$. Hydrochloride of diethyl α -amino-p-isopropylbenzylphosphonate, preparation, reaction with HCl, 775.

Group C_{15}

15. I

- $C_{15}H_{12}$. 1-Methylphenanthrene, preparation, properties, picrate, 963.
- $C_{15}H_{14}$. 2-Methylphenanthrene, preparation, picrate, 79.
- $C_{15}H_{16}$. 1,3-Diphenylpropane, preparation, 307.

15. II

- $C_{15}H_{20}O_4$. Product of condensation of 3a,4,7,7a-tetrahydro-3,7a-dimethyl-1-indanone with diethyl oxalate, formation, 835.
- $C_{15}H_{20}O$. Alcohol, formation, properties, 912.
- $C_{15}H_{32}O_6$. Reaction product of sodium butoxide and the bis(chloromethyl) ether of ethylene glycol, formation, properties, 740.

15. III

- $C_{15}H_{18}O_8N_4$. Picrate of 4-piperidino-3-buten-2-one, preparation, 885.
- $C_{15}H_{21}O_2N$. Acetic ester of 2,5-dimethyl-1-phenyl-4-piperidinol, preparation, hydrochloride, 282.
- $C_{15}H_{22}N_2O$. Aphillidine, isolation from *Anabasis aphylla*, 471.
- $C_{15}H_{23}ON$. 1) 4-(3-Buten-1-ynyl)decahydro-1,2-dimethyl-4-quinolinol, preparation, 661.
2) 4-Ethyl-2,5-dimethyl-1-phenyl-4-piperidinol, preparation, hydrochloride, 280.
- $C_{15}H_{24}ON_2$. 1) (2-Decalyl)-dihyromethyl-4(3H)-pyrimidine, preparation, 233.
2) Aphilline, isolation from *Anabasis aphylla*, 471.

- $C_{15}H_{25}ON$. 1,2-Dimethyl-4-ketoperhydro-6,7-(or 7,8)-benzoquinoline, preparation, properties, picrate, 452.
- $C_{15}H_{25}ON_3$. Semicarbazone of condensation product of 2-butanone and 3-camphenilancarboxaldehyde, formation, 730.
- $C_{15}H_{25}O_2N$. Amino ketone, preparation, properties, 290.
- $C_{15}H_{29}ON$. Amino ketone, preparation, properties, (5-dibutylamino-2-methyl-1-hexen-3-one), 290.
- $C_{15}H_{29}ON$. 1) 4-Butyldecahydro-1,2-dimethyl-4-quinolinol, preparation, solubility, 661.
2) 1-Dibutylamino-5-methyl-4-hexen-3-one, preparation, properties, 291.
- $C_{15}H_{31}ON$. 1-Dibutylamino-5-methyl-3-hexanone, preparation, properties, 291.
- $C_{15}H_{32}Si_2O_4$. Bis(trimethylsilyl) azelaate, preparation, properties, 123.

15. IV

- $C_{15}H_{20}ONCl$. 4-Ethynyl-2,5-dimethyl-1-phenyl-4-piperidinol hydrochloride, preparation, conversion to free base, hydrogenation, 279.
- $C_{15}H_{22}O_2NCl$. Hydrochloride of the acetic ester of 2,5-dimethyl-1-phenyl-4-piperidinol, preparation, conversion to free base, 282.
- $C_{15}H_{24}ONCl$. Hydrochloride of 4-ethyl-2,5-dimethyl-1-phenyl-4-piperidinol, formation, 280.

15. V

- $C_{15}H_{25}NPO_2Cl$. Hydrochloride of dibutyl α -amino-benzylphosphonate, preparation, properties, 774.

Group C_{16}

16. II

- $C_{16}H_{24}O$. Condensation product of mesityl oxide with 3-camphenilancarboxaldehyde, formation, properties, 731.
- $C_{16}H_{24}O_3$. Condensation product of ethyl acetoacetate and 3-camphenilancarboxaldehyde, formation, properties, semicarbazone, 732.
- $C_{16}H_{28}O_2$. Formic ester of alcohol from reaction of Grignard reagent from 3-chloro-2,4-dimethyl-1-pentene and ethylformate, hydrolysis, 911.
- $C_{16}H_{30}O_6$. Acid ester of hexamethylene glycol and sebacic acid, formation 483.

16. III

- $C_{16}H_{14}ON_2$. 3-Methyl-1,4-diphenyl-2-pyrazolin-5-one, preparation, properties, 594.
- $C_{16}H_{23}ON$. Octahydro-1,2-dimethyl-4-phenyl-1,5H-pyridin-4-ol, preparation, properties, 663.

$C_{18}H_{36}Si_2O_4$. Bis(triethylsilyl) succinate, preparation, properties, 123.

16. IV

$C_{18}H_{18}OCl_4Fe$. 2-n-Propylnaphthopyranyl ferrichloride, preparation, 431.

$C_{18}H_{18}OCl_4Fe$. 2-Isopropylnaphthopyranyl ferrichloride, preparation, 431.

$C_{18}H_{24}O_2NCl$. Hydrochloride of the propionic ester of 2,5-dimethyl-1-phenyl-4-piperidinol, preparation, 282.

16. V

$C_{18}H_{27}O_5NPCl$. Hydrochloride of dibutyl α -amino-3,4-methylenedioxybenzylphosphonate, preparation, reaction with HCl, 775.

$C_{18}H_{35}O_4P_2S_4Hg$. Mercury bis(O,O-dibutyl phosphorothiolonate), preparation, 111.

Group C_{17}

17. I

$C_{17}H_{16}$. 2-Ethyl-1-methylphenanthrene, preparation, properties, 812, 833.

$C_{17}H_{26}$. 1) Polymerization product of 2,4,5-trisopropylstyrene, formation, 495.

2) 2,4,5-Trisopropylstyrene, preparation, polymerization, 494.

17. II

$C_{17}H_{15}N$. N-p-tolyl-2-naphthylamine, condensation with paraldehyde to form quaternary salts, 949.

$C_{17}H_{18}O$. 2,4,5-Trisopropylphenylmethylcarbinol, preparation, conversion to phenylurethane, 494.

$C_{17}H_{20}O_3$. Anhydride of 1,2,3,4b,5,8,8a,9,10a-decahydro-4b-methyl-1,2-phenanthrenedicarboxylic acid, preparation, 962.

$C_{17}H_{22}O_5$. 1) Condensation product of maleic anhydride and 3,4,4a,5,6,8a-hexahydro-8a-methyl-8-vinyl-2(1H)-naphthalenone, formation, 78.

2) Condensation product of maleic anhydride and 3,4,4a,7,8,8a-hexahydro-4a-methyl-5-vinyl-2(1H)-naphthalenone, formation, 77.

$C_{17}H_{25}ON$. Decahydro-1,2-dimethyl-4-phenyl-4-quinolinol, preparation, hydrochloride, picrate, 662.

$C_{17}H_{26}O$. 2,4,5-Trisopropylacetophenone, preparation, 493.

17. III

$C_{17}H_{14}O_2N_2$. Monobenzyl ether of 4-phenyl-2,5-pyrimidinediol, preparation, hydrolysis, 891.

$C_{17}H_{14}O_4N_2$. 1-N-Benzoyl-5-piperonylglyoxalidone, preparation, saponification, 463.

$C_{17}H_{16}O_4N_2$. Amide of N-benzoyl- β -piperonyl- β -alanine, preparation, Hofmann reaction, 462.

$C_{17}H_{17}O_2Br$. Ethyl bromo(phenyl)-p-tolylacetate reaction with mercury, 592.

$C_{17}H_{23}O_3N_3$. 5-(2-Benzamidooctyl)-1,3,4-oxadiazol-2(3H)-one, preparation, 63.

17. IV

$C_{17}H_{17}OCl_4Fe$. 2-Isobutylnaphthopyramyl ferrichloride, preparation, 431.

$C_{17}H_{21}N_4PO_{10}$. Picrate of diethyl α -aminobenzylphosphonate, preparation, properties, 774.

$C_{17}H_{26}O_2NCl$. Hydrochloride of the acetic ester of 4-ethyl-2,5-dimethyl-1-phenyl-4-piperidinol, preparation, 284.

Group C_{18}

18. I

$C_{18}H_{16}$. Hydrocarbon from steroid diketone, 811.

18. II

$C_{18}H_{15}Sb$. Triphenylstibine. preparation, dichloride, 273.

$C_{18}H_{20}O_2$. Methoxy ketone, preparation, reaction with methylmagnesium iodide, 982.

$C_{18}H_{22}O$. Condensation product of acetophenone and 3-camphenilanicarboxaldehyde, formation, properties, semicarbazone, 731.

$C_{18}H_{22}O_2$. Tetracyclic methoxy ketone, preparation, 982.

$C_{18}H_{22}O_3$. Anhydride formed from condensation of 3,4,4a,5,8,8a-hexahydro-8a-methyl-1-vinylnaphthalene and citraconic anhydride, formation, hydrolysis, 962.

$C_{18}H_{22}O_4$. Tricyclic anhydride, from condensation of 3,4,4a,7,8,8a-hexahydro-4a-5-vinyl-2(1H)-naphthalenone, and citraconic anhydride, 823.

$C_{18}H_{24}O_2$. Isomers of 10-methyl-9-cardosterone-3,15-dione, preparation, 835.

$C_{18}H_{24}O_4$. 1,2,3,4b,8,8a,9,10,10a-decahydro-1,4a-dimethyl-1,2-phenanthrenedicarboxylic acid, preparation, dehydrogenation, decarboxylation, 963.

$C_{18}H_{28}O$. Condensation product of 3-camphenilanicarboxaldehyde and 6-methyl-5-hepten-2-one, preparation, properties, semicarbazone, 731.

$C_{18}H_{34}O$. Alcohol from reaction of amyl butyrate with the Grignard reagent from 3-chloro-2,4-dimethyl-1-pentene, formation, ozonization, 911.

18. III

$C_{18}H_{16}O_2N_4$. 2-(3-Acetylureidomethyl)-3-phenylquinoxaline, preparation, 892.

$C_{18}H_{23}ON_2$. 2,5-Dimethyl-4-phenyl-1-(2-pyridyl)-4-piperidinol, preparation, hydrochloride, 281.

$C_{18}H_{25}O_2Br$. 1) (1)-Menthyl bromo(phenyl)acetate, reaction with mercury, 592.

2) (1)-Menthyl ester of bromo (phenyl)acetic acid, reaction with mercury, 594.

3) Diastereoisomeric (1)-menthyl esters of bromo(phenyl)acetic acid, preparation, properties, reaction with mercury, 585.

$C_{18}H_{25}O_2N$. Benzoic ester of decahydro-1,2-dimethyl-4-quinolinol, preparation, 665.

$C_{18}H_{27}ON$. Decahydro-1,2,8a-trimethyl-4-phenyl-4-quinolinol, preparation, hydrochloride, 662.

$C_{18}H_{38}Si_2O_4$. Bis(triethylsilyl) adipate, preparation, properties, 123.

18. IV

$C_{18}H_{19}OCl_4Fe$. 2-n-Amylnaphthopyranyl ferrichloride, preparation, 431.

$C_{18}H_{23}ON_2Cl$. Hydrochloride of 2,5-dimethyl-4-phenyl-1-(2-pyridyl)-4-piperidinol, formation, conversion to base, 282.

$C_{18}H_{23}N_4PO_6$. Picrate of diethyl α -amino-p-phenylbenzylphosphonate, preparation, reaction with HCl, 774.

$C_{18}H_{25}O_2HgBr$. 1) (1)-Menthyl (bromomercuri) phenylacetate, preparation, properties, specific rotation, separation of (d) and (l) isomers, 585.

2) (1)-Menthyl (bromomercuri)-phenylacetate, preparation, 594.

Group C_{19}

19. I

$C_{19}H_{14}$. 2-Methylchrysene, formation, picrate, 79.

19. II

$C_{19}H_{18}O$. 16,17-Dihydro-3-methoxy-17-methyl-15H-cyclopenta[*a*]phenanthrene, preparation, 983.

$C_{19}H_{18}O$. Dehydrogenation product of steroid methoxy ketone, preparation, trinitrobenzene compound, 983.

$C_{19}H_{22}O_2$. 1) Mixture of steroid ketones, preparation, 984.
2) Steroid diketone. Condensation product of 3,4,4a,5,8,8a-hexahydro-8a-methyl-1-vinylnaphthalene and p-benzoquinone, 967.

3) Steroid methoxy ketone mixture, preparation, dehydrogenation, hydrogenation, 983.

4) Steroid tetracyclic methoxy ketone, preparation, hydrogenation, demethylation, 984.

$C_{19}H_{20}O_3$. Triketone, from condensation of 3,4,4a,7,8,8a-hexahydro-4a-methyl-5-vinyl-2(1H)-naphthalenone and p-benzoquinone, 823.

$C_{19}H_{24}O_2$. 1) Hydrogenation product of steroid methoxy ketones, mixture of isomers of methyl ether of estrone, 983.

2) Mixture of steroid methoxy ketones, preparation, 984.

3) Tetracyclic steroid methoxy ketone, preparation, demethylation, 984.

$C_{19}H_{28}O$. Steroid ketone, preparation, analysis, hydrogenation,

963; from condensation of 3,4,4a,5,8,8a-hexahydro-8a-methyl-1-vinyl-naphthalene and 2-cyclohexen-1-one, semicarbazone, 967.

$C_{19}H_{28}O_2$. 1) Isomers of 10,14-dimethyl-9-cardosterene-2,15-dione, preparation, isomerization, Clemmensen reduction, 834.

2) Steroid diketone, preparation, properties, isomers, 823; preparation, isomerization, Clemmensen reduction, 832.

$C_{19}H_{28}O$. 1) Reduction product of steroid diketone, formation, dinitrophenylhydrazones, dehydrogenation, 833.

2) Steroid ketone, preparation, hydrogenation, isomerization, 964.

$C_{19}H_{30}O$. Steroid ketone, preparation, 964.

19. III

$C_{19}H_{22}O_4N_4$. Picrate of 2,5-dimethyl-1-phenyl-4-piperidinol, formation, 278.

$C_{19}H_{23}ON$. 2,5-Dimethyl-1,4-diphenyl-4-piperidinol, preparation, hydrobromide, oxalate, hydrochloride, 281.

$C_{19}H_{24}O_4S$. Tetracyclic steroid diketo sulfone, preparation, 974.

$C_{19}H_{28}O_4S$. Tetracyclic steroid diketo sulfone, preparation, hydrogenation, 974.

$C_{19}H_{27}O_2N$. Acetic ester of the high melting isomer of decahydro-1,2-dimethyl-4-phenyl-4-quinolinol, preparation, hydrochloride, 664.

$C_{19}H_{30}O_4S$. Steroid tetracyclic diol, preparation, diacetic ester, oxidation, acetylation, 975.

$C_{19}H_{31}ON_3$. Semicarbazone of condensation product of 3-camphenilancarboxaldehyde and 6-methyl-5-hepten-2-one, formation, 732.

19. IV

$C_{19}H_{26}ONBr$. Hydrobromide of 2,5-dimethyl-1,4-diphenyl-4-piperidinol, formation, 281.

$C_{19}H_{26}ONCl$. Hydrochloride of 2,5-dimethyl-1,4-diphenyl-4-piperidinol, formation, 281.

$C_{19}H_{23}O_2NCl$. Hydrochloride of acetic ester of the low-melting isomer of decahydro-1,2-dimethyl-4-phenyl-4-quinolinol, preparation, 664.

Group C_{20}

20. I

$C_{20}H_{30}$. Hydrocarbon formed from steroid ketone, dehydrogenation, 965.

$C_{20}H_{32}$. Hydrocarbon from reduction of steroid diketone, 811.

20. II

$C_{20}H_{23}O_4$. 1) Dicarboxylic acid ester from condensation of dimethyl maleate with 1,2,3,4,4a,5,6,8a-octahydro-2,8a-dimethyl-8-vinyl-2-naphthol, formation, 79.

2) Dicarboxylic acid ester from condensation of dimethyl maleate with 1,2,3,4,4a,7,8,8a-octahydro-2,4a-dimethyl-5-vinyl-2-naphthol, formation, properties, 78.

$C_{26}H_{24}O_2$. Mixture of steroid methoxy ketones, preparation, demethylation, hydrogenation, 984.

$C_{26}H_{26}O_2$. 1) Mixture of steroid methoxy ketones, preparation, demethylation, 984.

2) Steroid diketone, from condensation of 3,4,4a,5,8,8a-hexahydro-8a-methyl-1-vinylnaphthalene and 3,5-dimethyl-3-cyclopentene-1,2-dione, formation, isomerization, 967.

$C_{26}H_{26}O_3$. Tetracyclic triketone, preparation, isomerization, 835.

$C_{26}H_{28}O$. Steroid ketone, preparation, hydrogenation, oxidation, Kishner reduction, 964; preparation, semicarbazone, hydrogenation, 966.

$C_{26}H_{28}O_2$. 1) Steroid diketone, preparation, properties, isomers, Clemmensen reduction, 813; preparation, isomerization, Clemmensen reduction, 820; preparation, isomerization, reduction, 822.

2) Steroid diketone isomers, preparation, properties, Clemmensen reduction, 809.

$C_{26}H_{30}O$. 1) Hydrogenation product of steroid diketone, 810.

2) Ketone obtained by Clemmensen reduction of steroid diketone, action of methylmagnesium bromide and methyl lithium, 822.

3) Steroid ketone, preparation, diodo compound, 965; preparation, 966.

$C_{26}H_{30}O_2$. Hydroxy ketone, preparation, properties, 812.

$C_{26}H_{30}O_4$. Dicarboxylic acid from ketone, 812.

$C_{26}H_{42}O_2$. 1,20-Eicosanediol, condensation with adipic acid, 849.

20. III

$C_{26}H_{22}O_4Hg$. Reaction product of ammonia and ethyl (bromomercuri) phenylacetate, 594.

$C_{26}H_{22}O_4N_2$. p-Nitrobenzoic ester of 2,5-dimethyl-1-phenyl-4-piperidinol, preparation, hydrochloride, 283.

$C_{26}H_{23}ON_3$. Semicarbazone of steroid ketone, formation, 967.

$C_{26}H_{23}O_2N$. Benzoic ester of 2,5-dimethyl-1-phenyl-4-piperidinol, preparation, hydrochloride, 282.

$C_{26}H_{24}O_2N_2$. p-Aminobenzoic ester of 2,5-dimethyl-1-phenyl-4-piperidinol, preparation, 284.

$C_{26}H_{24}N_2O_2$. Quinine, catalytic effect of, in the discharge of hydrogen ions in presence of amines, 715.

$C_{26}H_{25}O_2N$. Benzoic ester of 4-ethynyldecahydro-1,2-dimethyl-4-quinolinol, preparation, 665.

$C_{26}H_{26}O_2N_2$. 3-Benzoyl-4-(2-decalyl)-2-imidazolidinones, preparation, hydrolysis, 234.

$C_{26}H_{26}O_3S$. Tetracyclic keto sulfone with a fluoreno[2,1-bc]thiapyran ring system, preparation; with

phenanthro[2,1-bc]thiapyran ring system, preparation, 973.

$C_{26}H_{26}O_4S$. Tetracyclic diketo sulfone with phenanthro[2,1-bc]thiapyran ring system, preparation, isomers, 972; with fluoreno[2,1-bc]thiapyran ring system, preparation, 973.

$C_{26}H_{27}O_3N$. 1) Benzamido acid, preparation, 233.

2) N,N-Benzoyl- β -(2-decalyl)- β -alanine, preparation, reaction with thionyl chloride, 232.

$C_{26}H_{28}O_2N_2$. Isomeric amides of N-benzoyl- β -(2-decalyl)- β -alanine, preparation, hydrolysis action of acetic anhydride, 233.

$C_{26}H_{28}O_4S$. Tetracyclic steroid diketo sulfone, preparation, 974.

$C_{26}H_{29}O_2N_3$. Hydrazide of N-benzoyl- β -(2-decalyl)- β -alanine, preparation, 234.

$C_{26}H_{30}O_2$. Diodo compound of steroid ketone, preparation, 965.

$C_{26}H_{30}O_3S$. Tetracyclic steroid keto sulfone, preparation, 975.

20. IV

$C_{26}H_{23}O_4N_2Cl$. Hydrochloride of the p-nitrobenzoic ester of 2,5-dimethyl-1-phenyl-4-piperidinol, preparation, conversion to the free base, 283.

$C_{26}H_{24}O_2NCl$. Hydrochloride of the benzoic ester of 2,5-dimethyl-1-phenyl-4-piperidinol, preparation, conversion to free base, 283.

$C_{26}H_{26}ONCl$. Hydrochloride of 4-benzyl-2,5-dimethyl-1-phenyl-4-piperidinol, preparation, properties, 280.

$C_{26}H_{30}O_2NCl$. Propionic ester of decahydro-1,2-dimethyl-4-phenyl-4-quinolinol hydrochloride, preparation, 664.

Group C_{21}

21. II

$C_{21}H_{21}Sb$. Tribenzylantimony, preparation, reaction with ethyllithium, 263.

$C_{21}H_{32}O$. Tetracyclic alcohol, reaction product of methylmagnesium bromide and steroid ketone, formation, dehydration, and dehydrogenation to chrysene, 967.

21. III

$C_{21}H_{18}NI$. 3-Methyl-4-p-tolylbenzo[f]-quinolinium iodide, preparation, reaction with ethyl orthoformate, and other compounds, 952.

$C_{21}H_{21}SiF$. Fluorotri-p-tolylsilane, preparation, properties, 761.

$C_{21}H_{22}O_4S$. Tetracyclic steroid methoxy keto sulfone, preparation, 974.

$C_{21}H_{25}O_4N$. Methyl-4-benzoyloxydecahydro-1,2,8a-trimethylcinchoninate, preparation, 666.

$C_{21}H_{31}ON$. Tetradecahydro-1,2-dimethyl-4-

phenylbenzo [g or h] quinolin-4-ol, preparation, 663.

$C_{21}H_{44}Si_2O_4$. Bis(triethylsilyl) azeleate, preparation, properties, 124.

21. IV

$C_{21}H_{26}O_2NCl$. Hydrochloride of the acetic ester of 2,5-dimethyl-1,4-diphenyl-4-piperidinol, preparation, 285.

Group C_{22}

22. II

$C_{22}H_{40}O_4$. Eicosamethylene oxalate, polyester, formation, 995.

$C_{22}H_{42}O_6$. Dihexamethylene glycol ester of sebacic acid, formation, 483.

$C_{22}H_{40}O_{12}$. Product of reaction of ethyl vinyl ether with diethylene glycol, formation, properties, 94.

22. III

$C_{22}H_{31}O_3N$. Ethyl ester of N-benzoyl- β -(2-decalyl)- β -alanine, preparation, hydrazide, azide, 234.

$C_{22}H_{46}ON_2$. Diamino ketone, preparation, properties. [1,5-bis(dibutylamino)-3-hexanone] 291.

22. IV

$C_{22}H_{28}O_2NCl$. Hydrochloride of the propionic ester of 2,5-dimethyl-1,4-diphenyl-4-piperidinol, preparation, conversion to the free base. 284.

Group C_{23}

23. II

$C_{23}H_{42}O_4$. Eicosamethylene malonate, polyester formation, 995.

23. III

$C_{23}H_{27}O_2N$. Propionic ester of 2,5-dimethyl-1,4-diphenyl-4-piperidinol, preparation, hydrochloride, 284.

$C_{23}H_{34}O_5S$. Diacetic ester of steroid tetracyclic diol, formation, 975.

Group C_{24}

24. II

$C_{24}H_{20}Si$. Tetraphenylsilane, preparation, 761.

$C_{24}H_{30}Si$. Dibutyl-1-naphthylphenylsilane, preparation, properties, 639.

$C_{24}H_{44}O_4$. Eicosamethylene succinate, polyester, formation, 995.

24. III

$C_{24}H_{36}O_5N_4$. Diacylhydrazine of 3-(ethoxycarbonylamino)nonanoic acid, preparation, 64.

$C_{24}H_{23}O_2N$. Phenylurethane of 2,4,5-trisopropylphenylmethylcarbinol, preparation, conversion to 2,4,5-trisopropylstyrene, 494.

Group C_{25}

25. II

$C_{25}H_{46}O_4$. Eicosamethylene glutarate, polyester, formation, 995.

25. III

$C_{25}H_{24}SiO$. Ethoxy-1-naphthylphenyl-p-tolylsilane, preparation, reaction with benzylchloride and magnesium, 640.

Group C_{26}

26. II

$C_{26}H_{42}Si$. 1-Naphthyldioctylsilane, formation, 639.

$C_{26}H_{46}O_2$. Acid ester of hexamethyleneglycol and sebacic acid, formation, 483.

$C_{26}H_{48}O_4$. Eicosamethylene adipate, polyester, formation, 995.

26. III

$C_{26}H_{27}O_2N$. Benzoic ester of 2,5-dimethyl-1,4-diphenyl-4-piperidinol, preparation, hydrochloride, 284.

26. IV

$C_{26}H_{28}O_2NCl$. Hydrochloride of the benzoic ester of 2,5-dimethyl-1,4-diphenyl-4-piperidinol, preparation, conversion to free base, 284.

Group C_{27}

27. II

$C_{27}H_{50}O_4$. Eicosamethylene pimelate, polyester, formation, 995.

Group C_{28}

28. I

$C_{28}H_{24}$. 1) 1-Methyl-1,3,3-triphenylindan, formation, 991.

2) 1,1,3,3-Tetraphenylcyclobutane, formation, 991.

3) 1,1,3-Triphenyl-3-methylhydrindene, formation, 487.

4) 1,1,3,3-Tetraphenyl-butene-1, formation, isomerization, 487; formation, 991.

28. II

$C_{28}H_{22}Si$. Tetra-p-tolylsilane, preparation, 761.

$C_{28}H_{52}O_4$. Eicosamethylene suberate, polyester, formation, 995.

Group C₂₉

29. II

C₂₉H₅₄O₄. Eicosamethylene azelate, polyester, formation, 995.

Group C₃₀

30. II

C₃₀H₅₆O₄. Eicosamethylene sebacate, polyester, formation, 995.

30. III

C₃₀H₂₇N₂I. 3-(p-Dimethylaminostyryl)-4-p-tolylbenzo-[f]quinolinium iodide, preparation, absorption maximum, 953.

30. IV

C₃₀H₂₅N₂SI. (4-p-Tolyl-3-benzo[f]quinoline)-(3-ethyl-2-benzothiazole)monomethinecyanine iodide, preparation, absorption maximum, 953.

Group C₃₁

31. II

C₃₁H₂₈Si. 1) 1-Naphthyl-tri-p-tolylsilane, preparation, properties, 640.

2) Tribenzyl-1-naphthylsilane, preparation, properties, 640.

Group C₃₂

32. II

C₃₂H₅₈O₈. Acid diadipic ester of 1,20-eicosanediol, preparation, 849.

32. IV

C₃₂H₂₇N₂SI. (4-p-Tolyl-3-benzo[f]quinoline)-(3-ethyl-3-benzothiazole)trimethinecyanine iodide, preparation, absorption maximum, 952.

Group C₃₃

33. III

C₃₃H₂₇N₂I. (4-p-Tolyl-3-benzo[f]quinoline)-(1-methyl-4-quinoline)monomethinecyanine iodide, preparation, absorption maximum, 953.

Group C₃₄

34. III

C₃₄H₃₁N₂I. (4-p-Tolyl-3-benzo[f]quinoline)-(1,3,3-trimethyl-2-pseudoindole)-trimethinecyanine iodide, preparation, absorption maximum, 952.

Group C₃₆

36. III

C₃₆H₅₀O₄Hg. Diastereoisomers of Di-(+)-menthyl ester of mercuribis[phenyl-acetic acid], preparation, properties, reaction with mercuric bromide, 758.

Group C₄₀

40. III

C₄₀H₂₈N₂O₆. Oxalate of 2,5-dimethyl-1,4-diphenyl-4-piperidinol, formation, 281.

Group C₄₃

43. III

C₄₃H₃₃N₂I. Bis(4-p-tolyl-3-benzo[f]quinoline)trimethinecyanine iodide, preparation, absorption maximum, 952.

Group C₅₀

50. III

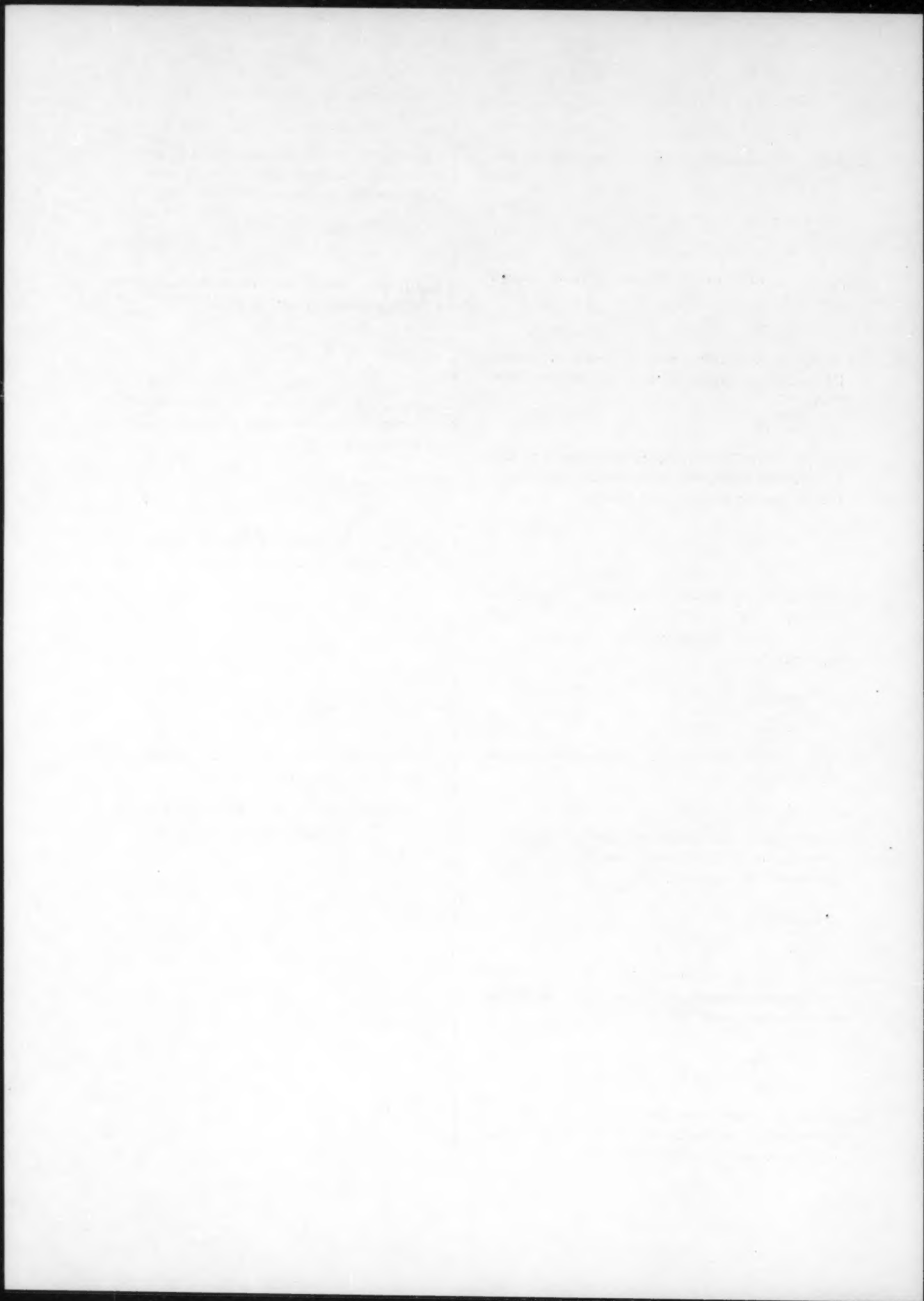
C₅₀H₉₂O₁₆N₆. Product of reaction of dibutyl adipate and 1,6-hexanediamine, 671.

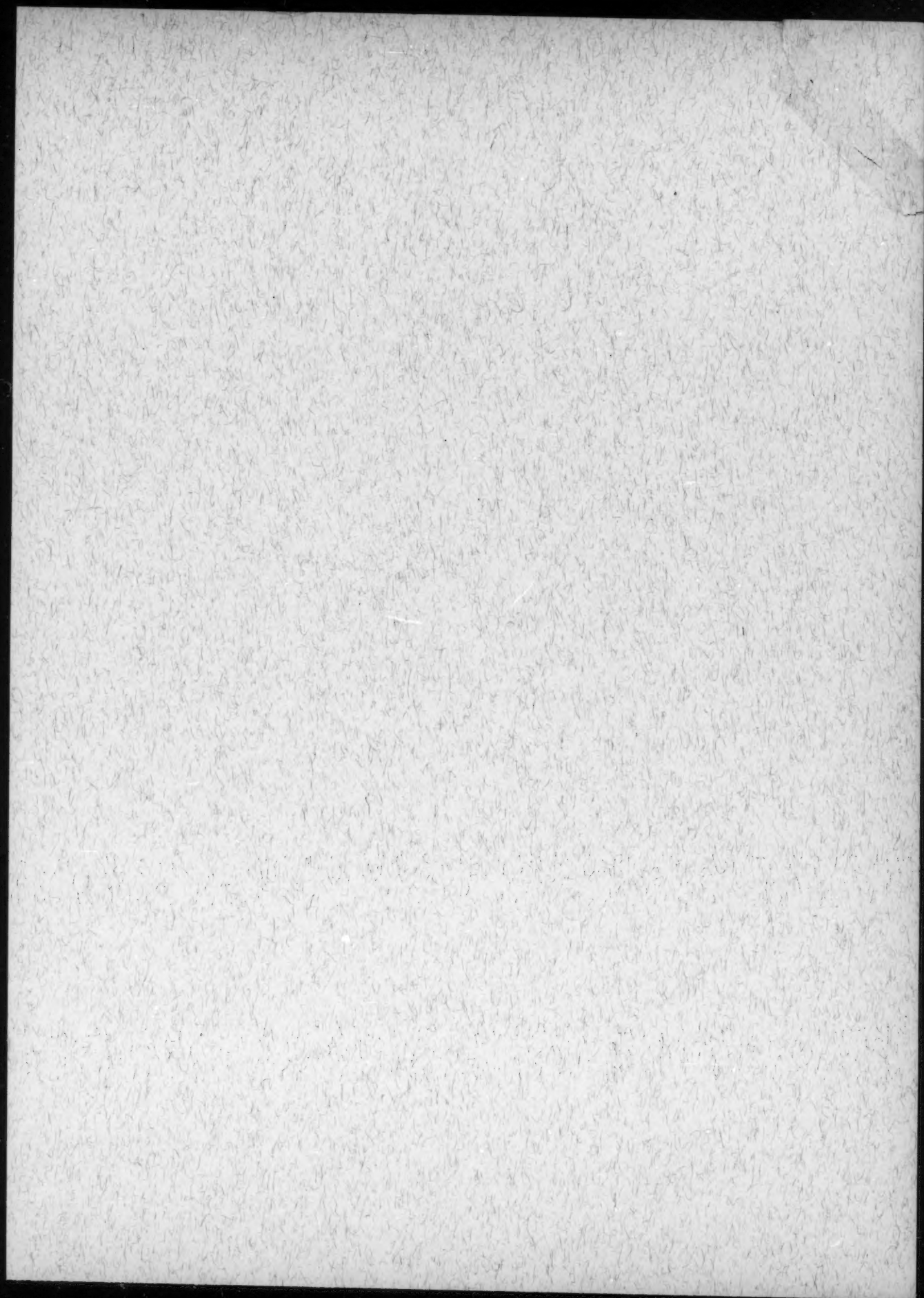
ERRATUM

The following compound has been misplaced in this index of empirical formulas:

C₁₇H₂₅ON. Should appear under Group C₁₇, 17 III.

Appears under Group C₁₇, 17 II.





TRANSLATION TO AND FROM ALL LANGUAGES

by bilingual chemists and engineers;

Rates for translation into English:

Language	Price per 1000 words
French	\$ 10.00
German	10.00
Italian	10.00
Russian	10.00
Spanish	10.00
Dutch	12.00
Other languages	Rates upon request

CONSULTANTS BUREAU

152 West 42nd Street

New York 18, N. Y.

